ASL

Australian Society for Limnology Inc.

NEWSLETTER

Volume 40 #3

September 2002

Registered by Australia Post

Print Post Publication No. PP 381667/00125

ABN 54 606 483 226

ISSN 1037-2512

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 650 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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CONTENTS

CONTENTS
3
FROM THE EDITOR
5
PRESIDENT'S REPORT
6
NEW AMENDMENT TO THE ASL CONSTITUTION
7
STYGOFAUNA WORKSHOP, SATURDAY 29 SEPTEMBER 2002
8
OBITUARY - LUKE JEROME PEN 10
SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE 16
Centre for Catchment and In-Stream Research, Griffith University 16
WSL Consultants - Aquatic Ecology 17
Freshwater Ecology Group, Central Queensland University 18
Ecosystem Management, University of New England 19
Centre for Water Research, Dept. of Env. Eng. UWA 21
Murray-Darling Freshwater Research Centre 23
Centre for Palynology and Palaeoecology, Monash University 23
Australian Water Quality Centre 24
CRC for Freshwater Ecology 26
A POSTCARD FROM THE FREE MARKET 27
INFORMATION FROM AND FOR MEMBERS 29
FASTS 32
ARTICLES 38
POSITION AVAILABLE 46
KYLEE WINTON PHD ABSTRACT 48
BOOKS 49
CONFERENCE REPORTS 51
FORTHCOMING CONFERENCES/WORKSHOPS 53
ASL VOLUNTEERS 57
ASL MEMBERSHIP FORM 60
ELECTRONIC NEWSLETTER APPLICATION FORM 62
REGIONAL EXECUTIVE MEMBERS 2001-2002 63
EDITORIAL ADDRESS 63

Material for publication in the **Volume 40 # 4 Issue** of the Newsletter should be sent to the Editor (Address on back page) by **Friday 29th November 2002.**

Volume 41 # 1 contributions are due Friday 28th February 2003.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page - http://www.asl.org.au/

This Newsletter is printed by Border Multi Print Pty Ltd Wodonga, packaged by Kalianna Pty Ltd and distributed by Australia Post.

Membership Information and a list of the Regional Executive Members can be found at the back of this Newsletter.

FROM THE EDITOR

Well, here we go again. Where did the last three months go?

It is a little disappointing that there are only nine organization's "gossip section" in this edition – what have the rest of you been up to?

Some new sections include a PhD Abstract for your information and a welcomed return to the one and only, Tim Doeg.

Enjoy Margaret River, looking forward to lots of pics and newsy bits for the December edition.

Thanks to Diane Conrick , Scientist (Aquatic Ecosystem Health) at Department of Natural Resources and Mines (NR&M) for sending in the following from the *Courier Mail.*

Calvin & Hobbes
IF PEOPLE SAT OUTSIDE AND LOOKED AT THE STARS EACH NIGHT, I'LL BET THEY'D LIVE A LOT DIFFERENTLY.
HOW SO?
WELL, WHEN YOU LOOK INTO INFINITY, YOU REALIZE THAT THERE ARE MORE IMPORTANT THINGS THAN WHAT PEOPLE DO ALL DAY.
WE SPENT OUR DAY LOOKING UNDER ROCKS IN THE CREEK.
I MEAN OTHER PEOPLE.

Cheers

Rhonda Sinclair
Rhonda.Sinclair@csiro.au

PRESIDENT'S REPORT

My last President's report!

It has been very rewarding to serve as President for ASL this past two years. ASL continues to grow in both numbers and outlook. Our obligation to fulfil our charter to promote the wise use and sustainable management of Australian inland waters has seen an increased advocacy by ASL through government submissions, policy documents, promoting links with other stakeholders in wetland management (Wetland Care, WWF, SWS, L&W) and, most importantly, the improvement of communication between these groups as begun in the Wetland Forums in Darwin and Moama.

But as President, I must say that there has also been an occasional sense of frustration. I have been fortunate to work with an innovative, motivated and committed Executive. Many of them extending themselves way beyond the call of duty in their commitment to ASL and Australian wetlands. There are simply not enough hours in the day to allow ASL to function at its potential. We have come to a threshold. To maintain our momentum and properly fulfil our charter we need a devoted secretariat, backed by clear guidelines and protocols to enable them to act effectively in ASL's best interests. I know this is not a new idea, but funding the salary has always been a barrier. So the Exec is currently seeking funds to establish such a position. It is a clear indication of our progress and success that we need this person.

The instigation of the secretariat is not based simply on increased environmental advocacy by ASL. We are a scientific society. The first part of our charter is to further our understanding of Australia's inland waters. Our strength is in our knowledge, understanding and scientific investigation of inland waters, this is what we, as opposed to other groups, uniquely provide to Australia. We need to maintain our priority to foster high quality research, support our members in this endeavour and seek opportunities to influence science funding (this latter is a role the secretariat might take up). In the last two years we have seen the start of the Queensland pub night that joins the Vic, NSW and Tas (what about the rest of you states eh?), we have instigated the Early Career Excellence Award (the inaugural winner and the ASL Medal winner will be announced at Margaret River), are finalising an international travel award for students and we have our excellent newsletter, website and listserver that allows us to keep in touch (thanks to Rhonda Sinclair, our newsletter editor and Simon Josey, our website manager). We are looking to increase our links with other scientific societies (NABS, SIL, SWS etc., remember our joint congress with our NZ colleagues in Warrnambool next year).

ASL has achieved our current strength through the activity, enthusiasm and motivation of its members, not just the Exec but people on policy committees, volunteers at congresses and all manner of roles. We can all contribute, and I encourage you to do so. All the best to the new Executive!

Cheers, Jane (2nd September 2002)

NEW AMENDMENT TO THE ASL CONSTITUTION

ASL Inc needs to change the definition of its financial year to meet requirements of Consumer and Business Affairs Victoria.

Currently the ASL constitution (section 9) states that "the financial year of the Society shall cover the period 1 January in any year to 31 December of that year". The rules for an incorporated association in Victoria now require that the AGM, at which the financial statement of the society is approved, must be held within 5 months of the end of the financial year of the incorporated association. This currently means that the ASL should hold an AGM by the end of May each year.

As congresses are usually held in the second half of the year the society cannot comply with this requirement. Therefore the constitution needs to be changed. The executive suggests it be changed to read: "the financial year of the Society shall cover the period 1 July in any year to 30 June of the following year". Members of the ASL will be asked to vote on the acceptance of this change at the AGM to be held in Margaret River in October 2002. Such notification is required by the constitution.

Dr Richard Marchant, Secretary ASL
19th August 2002

STYGOFAUNA WORKSHOP
SATURDAY 29 SEPTEMBER 2002

Stygofauna Workshop (in association with 41st ASL Congress)
Emerald Colonial Lodge, Margaret River
Saturday 29 September 2002
2.00pm – 5.30pm

This workshop is free and anyone interested in attending is welcome

A brief outline of the aims of the workshop is given below, together with a draft program

Stygofaunal research is a new and growing field in Australia. Technical issues concerning species identification, animal collection methods and ways of gathering appropriate physico-chemical data occupy a large part of the stygofaunal debate and have taken attention away from the ulitimate issues of species distributions, ecology and management.

The overall aim of the stygofaunal workshop is to bring together people interested in stygofauna in Australia to exchange information and discuss ways in which stygofaunal studies may be facilitated by sharing data, undertaking joint taxonomic studies, using common voucher systems, and improving the links between field data collected by biologists and the hydrogeological interpretation of aquifer characteristics.

To date the focus of Australian stygofaunal research has been in Western Australia, although there have been important cave studies in eastern Australia and studies of the stream hyporheos. A new study in Western Australia will change the scale at which stygofauna is being studied in Australia, with the entire Pilbara region being surveyed over a three year period. One of the important topics for future studies is identification of the overlap of stygofaunal species in caves, deep (interstitial) groundwater, hyporheos and surface water.

The Pilbara study may be an appropriate focal point for informally coordinating many stygofauna research issues. The survey will be funding some taxonomy of important groups such as copepods, ostracods, amphipods, isopods, other crustaceans and oligochaetes. It will also fund some genetic work to examine the link between morphology and gene exchange. Some parallel programs are also funded from other sources and there is likely to be considerable synergy if specimens can be shared between studies, research can be coordinated across funding sources, and there is efficient dissemination of results.

The emphasis of the workshop will be on informality and meeting others interested in stygofauna. The presentations are intended to be informal discussion starters rather than formal papers:

DRAFT PROGRAM

2.00 pm	Stuart Halse	Welcome
2.10 pm	Stuart Halse and John Bradbury	A history of Western Australian studies
2.25 pm	Discussion	Taxonomists involved in WA studies, location of specimens and publications
2.50 pm	Peter Serov	A history of eastern Australian studies
3.00 pm	Discussion	Taxonomists involved in EA studies, location of specimens and publications
3.15 pm	Patrick De Deckker	Chemistry and ecology
3.30 pm	Afternoon tea	
3.50 pm	Discussion	What is being collected, what should be collected, how should it be done?
4.30 pm	Terrie Finston	Current genetic studies in Australia
4.40 pm	Discussion	Exchange of specimens, capacity to assist current and planned projects
5.00 pm	Stuart Halse	Outline of the Pilbara survey and its logistics
5.10 pm	Discussion	Can other studies piggyback on the Pilbara and *vice versa*?

If there are any other questions about the workshop then contact either:
Adrian Pinder (adrianp@calm.wa.gov.au, Phone 08 9405 5153) or
Mike Scanlon (mikes@calm.wa.gov.au, Phone 08 9405 5176).

OBITUARY

Luke Jerome Pen

4 August 1960 - 28 June 2002

Luke Pen died on the 28th of June this year after a protracted illness. He will be sorely missed by all who knew him. This brief sketch of his achievements is intended to remind us all of the enormous contribution that Luke made in the area of natural resource science, management and conservation and to enable future researchers to get access to his work.

Luke was an enthusiastic and tireless scientist, who was as passionate talking about the number of tanks produced by the Germans during the peak of World War II, as he was about the fringing vegetation of wetlands, the biology of fish or the conservation of Western Australian rivers.

Someone once speculated what great works Mozart might have composed if he had not died so young. And in my morbid moments, since Luke died, I sometimes think how unfair that one so full of life and so willing and able to help, also was cut short in his attempts. But I know that I shouldn't be bitter. As you will see below, he achieved a lot. And we are all the richer for it.

(As I write this, I can see Luke standing there, with his serious face, breaking into a broad grin at the very thought that I am getting sentimental about him. Don't worry old fella; I'll get over it).

LUKE PEN'S SCIENTIFIC CAREER

He graduated with 1st class Honours in Science from Murdoch University in 1981, with a thesis on *The Peripheral Vegetation of the Swan and Canning Rivers: Past, Present and Future*, published as a chapter in 1987 in the *Swan River Estuary: Ecology and Management*, edited by Jacob John. His study earned him the Australian Institute of Petroleum Prize in 1981 for best Honours study in environmental science. Plants and riparian vegetation remained a passion for him throughout his career.

Between 1981 and 1984, Luke worked at Murdoch University, Department of Conservation and Environment, the Department of Fisheries and Wildlife and the Western Australian Herbarium with, amongst others, John Green and Margaret Brock.

I knew him best as the indefatigable laboratory manager and 'Colonel' of Ian Potter's fish group at Murdoch University in the mid 1980s to early 1990s. His PhD, *The biology of four species of native and two species of introduced fish in south-western Australia*, while working for Ian, was a landmark in the biology of Western Australian freshwater fishes, producing an astounding nine papers, one of which I am proud to say, I was a co-author. During this time, he carried out several consultancies, including ones for the State Planning Commission on the effects of road and bridge development on the Canning River Wetlands, P. & M. Tooby Landscape Consultants on the impact of the construction of various roads, the Western Australian Water Authority, investigating the potential effects of dams and weirs in the Pemberton area on the movement of fishes and for the Waterways Commission, in which he advised in the identification of parklands along rivers in the Armadale area, as well as mapping the fringing vegetation of the Leschenault Estuary.

Luke and family moved to Albany in October 1991, where he was employed as Environmental Officer with the Albany Waterways Management Authority. I remember clearly his concerns about leaving the big smoke of Perth for the wilds of Albany. His three years there were very enjoyable, from all accounts, and he clearly made a mark on the locals. During his time in Albany, Luke conducted investigations and assessments, preparation of plans and reports on issues relating to waterways management.

In March 1994 , Luke received the Waterways Commission Merit Award in recognition of an outstanding contribution to revegetation of the Kalgan River and promoting the Living Streams concept in Western Australia.

From late 1994 to his death, Luke worked for what was then the Water Authority of WA, which then became the Waters and Rivers Commission. He first worked in Policy and Planning in the Water Resources Division and was involved in the evaluation and mapping of wetlands as part of the Busselton-Walpole regional water allocation project, as well as the identification of outstanding river sections and systems in the Perth to Walpole region, the development of a streamline database, the protection and management of water resources and supporting the Blackwood Catchment Coordinating Group. For several years he worked as a Policy Analyst with the same group, assessing beneficial uses of water resource allocation, involving the environmental and cultural evaluation of wetlands and rivers throughout the state. He also assisted in the development of regional sustainable development initiatives and 'State of the Environment' and 'State of the Water Resource' reporting. From October 1996 to December 1997, Luke was Principal Environmental Officer with Waterways Management Planning, during which time he prepared management plans, supported ICM groups, developed a resource database for waterways management, developed procedures and policies for waterways management and provided technical information to regional staff involved in waterways management. An important component of his work involved the development of policy for waterways management. Between November 1996 and September 1997, Luke initiated the development a statewide waterways management strategy and the expansion of technical assistance through the state/federal partnership agreement (Waterways WA) for the Natural Heritage Trust.

Between January 1998 and when he finished work, Luke took on the role of Program Manager, where he reported on the NHT/Rivercare program in WA, developed the Waterways WA Program, served on the Inter Agency Working Group under the MOU for Clearing Applications in south-west Western Australia, was involved with strategic planning and policy development relating to waterways management aspects of the emerging framework for integrated natural resource management, coordinated quality control and consistency across the Commission in the operation of the Waterways Conservation Act and managed a program for river and wetland restoration, which included the production of literature and coursework (see below), to train and educate the andcare community, which produced the now famous 'River Rats'.

During his studies and working life, Luke made major contributions to increasing our understanding and better management of natural resources in the areas of: fringing vegetation, Western Australian freshwater fish, foreshore management, the promotion of the concept of restoring degraded creek lines or converting drains to natural stream form, management of rivers in the south-west of Western Australia, through his 'Rivers Book' and in development of a course and manual on how to restore rivers.

Whew!

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Prepared by Paul Humphries with help from Verity Klemm (and a great deal of assistance from Luke himself).

SCUTTLEBUTT, RUMOUR AND A BIT OF PRATTLE

CENTRE FOR CATCHMENT AND IN-STREAM RESEARCH, GRIFFITH UNIVERSITY, BRISBANE

Firstly, congratulations to **Christy Fellows** and **Wade Hadwen** on their marriage in early August. After a relaxing honeymoon **Wade** has been rapidly brought back to earth with the impending submission of his PhD thesis. **Wade** will have handed his masterpiece in before this goes to print.

Tim Moulton (Visiting Fellow) and his two research assistants **Marcelo de Souza** and **Ernesto Fuentes Brito**, also from the State university of Rio de Janeiro are making good progress with their research on the cascading effects of grazer and predator exclusion on periphyton and sediments. They are repeating experiments previously undertaken in forest streams of Rio de Janeiro where atyid shrimps were found to have direct effects on periphyton and sediments while fish and and *Macrobrachium* had indirect effects through predatory interactions with grazing ephemeropterans. They are comparing their current work in streams in the Conondale Ranges with those in Rio de Janeiro. Preliminary results demonstrate that atyid shrimps (*Paratya*) strongly reduce the amount of periphyton and sediments on rocks.

CCISR welcomes **Andrew Cook** and **Carl** Murray, our two new research assistants. They will both be working primarily on the SE Qld Ecosystem Health Monitoring Program (EHMP, formerly DIBM3). In addition **Carl** and **Andrew** will be processing some invertebrate and stable isotope samples from the Dryland Refugium project. Meanwhile, the refugium team is getting ready for another Spring sampling trip to a subset of sites in the Cooper Ck and Warrego River catchments in early October. This work will continue with the assessment of biodiversity and productivity patterns in dryland rivers. Work on the third catchment (Border Rivers) is planned to commence in early November.

Fiona Balcombe, Stuart Bunn and **Peter Davies** (UWA) have completed the final report for the Environmental Flows Initiative project. **Stuart** is currently on study leave in Canada (University of New Brunswick) although this was broken by a short return to Brisbane for the River Symposium.

From

Stephen (Harry) Balcombe

WSL CONSULTANTS – AQUATIC ECOLOGY

WSL is very proud to announce that **David Bryant**, **Danny Vertessy** and **Patrick Maiden** were awarded NATA accreditation as signatories for macroinvertebrate identification and enumeration at WSL. Recognising the work done by **Alistair Cameron** in establishing an exhaustive quality control system in the lab, our assessor, **John** Hawking (MDFRC) quizzed and probed the senior laboratory staff on various facets of field sampling procedures and taxonomy. Fortunately John's jokes were better than his trick taxonomy questions and following the official requirements, an enjoyable day was had catching up with news from the northern border.

Meanwhile, the mountain of IMEF riverine samples from the Hunter and Murrumbidgee catchments, the collection of EPA compliance monitoring samples and Melbourne Water research projects samples has been slowly disappearing down the microscopes. Unfortunately, we farewelled **Stephen Adamthwaite** as he took on a position at EPA Victoria, working with their new freshwater ecology crew. **Steve's** reliability, taxonomic skills and friendly nature make him sorely missed at WSL. We were very happy to welcome **Genevieve Hehir** back to the lab as we commenced these DLWC samples. **Genevieve** worked with WSL on the DLWC wetland samples in 2001, and we were very keen for her to rejoin the lab.

Spring sampling is currently being planned, and the next few months will see field work for **Dave**, **Dan**, **Gen** and **Pat** heading out to rivers at Eildon, Shepparton, Ballarat, Lilydale, South Gippsland, Castlemaine and the Latrobe Valley. We have been taking pre-dawn dissolved oxygen measurements of Olinda Creek. The "arctic" early mornings have made spring sampling looking like the tropics.

A special day out was enjoyed by the lab at the launch of **Eddie Tsyrlyn** and **John Gooderham's** new waterbug piccy book. Congratulations to them both on creating a great book. Chatting with bug people from all around Melbourne, many of the expert owners of the new book recognised the vast work done by the newly published authors. It was good to see the following days *Age* newspaper had reviewed the book. Surprisingly, the journalist had credited **Eddie** and **John** with the development of the SIGNAL system (I sure hope **Bruce C.** didn't mind too much). Admittedly, this article was in the social pages and the pair's turtleneck and tweed combo did not escape the headlines.

From

Patrick Maiden

FRESHWATER ECOLOGY GROUP, CENTRAL QUEENSLAND UNIVERSITY

Larelle Fabbro is just finishing up the updated guide to problematic blue-green algae with Peter Baker (AWGC). **Heather Smyth** is back with us again while still spending time at DNRM on their Hydsis database. **Susan White** is having lots of success doing ecotoxicology experiments on the "toxic Lake Elphinstone" blue green algae. Appears the algae don't let many of the snails and shrimp she is testing live for very long.

Brett Roe has started his second trial of the wetlands used to clean up the effluent from his Barramundi/redclaw polyculture, and is planning to link these components of his system with the floral hydroponics system he trialed earlier.

Leo Duivenvoorden and **Michael Price** have started their second main season of studying the effects of irrigation on the macroinvertebrates around the Theodore Irrigation area - being neck deep in water at 13.4 degrees was not to be envied on the last trip! This is part of a Nationally funded program for ecological risk assessment associated with irrigation. **Stefan de Yong** (a visiting student from The Netherlands will join this project for the next three months).

Roslyn Howse and **Gaylene Taylor** are still beavering (Platypusing?) away at their theses, hoping to complete by the end of the year.

From

Leo Duivenvoorden

ECOSYSTEM MANAGEMENT, UNIVERSITY OF NEW ENGLAND

Plenty of goings-on to report from the Tablelands. **Andrew Boulton** returned from Study Leave overseas to commence his penance as Head of Department and enjoy the administrative pleasures of such a task in 21st Century Australian universities. Before attending NABS in Pittsburgh, Andrew visited **Emily Stanley** at the Center for Limnology in Wisconsin, looking across the waters of Lake Mendota. Although this group is best known for the trophic cascade work by **Steve Carpenter** et al., they do an impressive range of largely lentic ecology in an area of Wisconsin that seems to be more lakes than land. Andrew looked at some of Emily's work assessing the effects of dam removal on downstream communities - there is now a 150km stretch of river that has been scourged of dams but in newly removed dams, major siltation problems frequently occur. After NABS (an enjoyable meeting enriched by **Sam Lake's** Award of Excellence), Andrew headed across to southern England to explore groundwater-surface water linkages in chalk streams with **John Wright** and **John Davey-Bowker** as part of the Lowland River assessment program. Many of these winterbourns rely on groundwater for their baseflow and are classic "Groundwater Dependent Ecosystems" yet are threatened by groundwater extraction and pollution in many areas. Andrew then spent a month in France and Spain, working on groundwaters and ramblas (temporary streams in Spain) with various colleagues. As ever, he was overwhelmed by the extraordinary hospitality of European limnologists and their generosity with their time, food and wine. One spin-off that may be interesting to Australian limnologists working on groundwater was the production of a sampling manual of methods for groundwater fauna and water samples, that has resulted as part of a large-scale program called PASCALIS (Protocols for the ASsessment and Conservation of Aquatic Life In the Subsurface), a research project supported by the European Commission under the Fifth Framework Programme and contributing to the implementation of the Key Action "Global Change, Climate and biodiversity" within the Energy, Environment and Sustainable Development. Check out the website: http://www.pascalis-project.org/

A new crop of Honours students has arrived for the mid-year starts to several projects. **Kate Rhook** is commencing a project on matching areas of aquatic macroinvertebrate biodiversity with land-use and coastal catchments possessing high rainforest diversity to seek possible correlations, funded by an Environmental Levy program through Coffs Harbour City Council. A second project is being done by **Judy Davies**, funded by the same source, and is focused on the effects of camphor laurel leachates on aquatic invertebrates. This has been prompted by the controversy surrounding removal of this exotic species which has formed almost complete canopies across many North Coast streams. Although there seems to be much anecodotal evidence to suggest that camphor laurel infestations impact on aquatic invertebrates and fish, little seems to be published and we are keen to hear from other limnos with data or insights on this issue. The third project is by **Kelly Howitt**, cosupervised by **Keith Bishop**, exploring river-estuary profiles and their likely changes in response to predicted increases in water extraction from the Hastings River. This relationship between environmental flows and estuary processes is attracting greater interest in North Coast catchments where population density is predicted to double by 2020.

Kate Smolders is completing her Hons project looking at the uptake of heavy metals by invertebrates downstream of two mines on the Macleay River while **Imogen Edmunds'** related Masters project on algal uptake and phytoremediation has been slowed down as she went part-time on the project after getting a job with the EPA in Armidale. **Paul Butcher** is off to Cairns this week (International Conference on Aquatic Protected Areas) to present his findings on the effectiveness of the zoning in protecting mud crab stocks in the Solitary Islands Marine Park. Early results indicate the sanctuary zone is a crucial recruitment source for the downstream recreational zone - good news for the Park managers.

Wendy Miller continues her work on urban streams on the Tablelands, and is now advising local Rivercare groups that are rehabilitating some sections of some of her streams. Buried under piles of algal-covered rocks, **Marcus Finn** prepares his material for his ASL talk on the effects of water extraction on algal dynamics in two coastal rivers in the Hastings catchment. **Peter Hancock**, when not helping NSW Fisheries tag grey nurse sharks, forges through his hyporheic samples and will also present some of his work at the conference. **Mel Pearson** has finished picking through a bunch of AusRivAs samples form 25 sites on the Bellinger/Nambucca catchments that were sampled by Andrew last autumn, and has revelled in all the baetid diversity that Andrew was hoping to overlook.

Last but not least, celebrations for successful thesis completions include **Phil Morris'** Hons on siltation in the hyporheic zone, **Peter Berney's** Masters on the oral history of the Brunswick River (now being prepared as a book with Patrick Pahlow, DLWC) and **Anh Tho Tien's** project on the hydrology of Howards Spring, cosupervised by **Peter Jolly**.

From

Andrew Boulton

CENTRE FOR WATER RESEARCH, DEPARTMENT OF ENVIRONMENTAL ENGINEERING, UNIVERSITY OF WESTERN AUSTRALIA

Before leaving CWR for the University of Waikato, **Dr David Hamilton** took part in an international and New Zealand research team looking at the behaviour of Lake Taupo. The lake is the largest in New Zealand, 150m deep, has internal waves up to 90m and is a world-renowned trout fishery. Key elements of the research are the winter chlorophyll maximum, light climate (Secchi disk depths > 15m) and occurrence of winter mixing. In 1998 - an unusually warm year - winter mixing never occurred and dissolved oxygen levels declined substantially. The hydrodynamic-ecological model DYRESM-CAEDYM is being applied to the lake to understand some of the processes involved in mixing, oxygenation and phytoplankton production.

Prof. Jorg Imberger visited for Germany and Israel in June. He spent four days in Stuttgart with Professor Kobus and Jochen Appt. The purpose of his visit to Stuttgart was to progress the large Bodensee project, to get an overview of the previous Bodensee project and to deliver a seminar at the University of Stuttgart. The next stop was Aachen where he visited Dreilägerbach reservoir and delivered a seminar at Aachen University of Technology. In Israel, Jorg participated in the second annual progress meeting of the Lake Kinneret project. He also visited the Inter University Institute Of Eilat: Stienitz Inter-University Marine Laboratory and Tel Aviv University.

The Centre for Water Research has just been awarded a new project in Colombia to apply its three-dimensional model ELCOM to investigate the key hydrodynamic processes in a shallow coastal lake near Cartagena. ELCOM will be used to investigate: the wind driven circulation in the lake, currents near the river inflows and the outflow, exchange between the deeper central part of the lake and the shallow margins (driven by differential heating and cooling), fluctuations in water level due to seasonal inflows and the single outflow. The model will also be used to investigate the residence time of the system, identifying areas with higher and lower rates of flushing.

Following on from what has been a record dry year in Perth, CWR will continue to monitor Mundaring Weir (Helena Reservoir) with the aim of assisting the Water Corporation in the design of future management options. In 2001, a Lake Diagnostic System was installed at the reservoir to monitor the thermal structure and meteorological inputs for a 12-month period. This period has seen drought conditions and the need to transfer ground water into the reservoir. CWR will now undertake a detailed analysis of the data collected and provide a report interpreting the data and describing the dynamics of the weir. The data will be used to calibrate and validate the water quality model DYRESM-CAEDYM which will then be used to assess a range of alternative operating strategies for the reservoir and provide additional information for the design and operation of a new offtake structure.

Visitors to the Centre included **Masataka Watanabe**, Professor in the Division of Water and Soil Environment, National Institute for Environmental Studies, Tsukuba, Japan. His main research areas are in models of bloom-forming algae in the coastal ocean, hydrodynamic models and coupled catchment-coastal ocean models. Also, **Dr Keith Beven** of Lancaster University, visited the Centre in July. Dr Beven is Professor of Hydrology and Fluid Dynamics in the School of Environmental Science. Professor Beven had discussions with staff and students in the three hydrology groups, and give a seminar entitled "Learning about places: towards a new philosophy of environmental modelling."

New lakes are being formed around the world as the voids from completed open cut mining operations are allowed to fill with water. Reducing the acidity of water found in these mine lakes so that they can be used for community and commercial purposes is just one of the aims of a new centre recently established in Western Australia. The Centre for Sustainable Mine Lakes (CSML), which will be based in Collie, 200km south of Perth in the heart of the Western Australian coal mining district, is a joint venture partnership made up the WA State Government, Curtin University of Technology, The University of Western Australia, Edith Cowan University, Murdoch University, Wesfarmers Premier Coal Limited, Griffin Coal Mining Company, Sons of Gwalia Limited and local community groups within the Shire of Collie. Predicting water quality and quantity in final mine pits is a relatively new challenge facing those responsible for mine site rehabilitation and improving poor water quality is a recurring problem for many mining companies. The Centre will develop innovative approaches to solving water quality issues that effect mine lakes such as high acidity, high salinity, metal contamination and the build up of nutrients. Key initiatives of the Centre will include the development of innovative water treatment for mine lake water and research into the use of treated water for tourism, fish farming, tree farming and horticulture enterprises. Water quality improvement technologies and business enterprise models based on the use of mine lake water will be developed for export to mining industries worldwide. International affiliations with overseas research groups will also be actively pursued by CSML and education and training programs focussed on mine lakes and mine lake water will be conducted.

Recently published

Linge, K.L. and Oldham, C.E. (2002) Arsenic remobilisation in a shallow wetland: the role of sediment resuspension. Journal of Environmental Quality 31(3): 822-828.

For more CWR news visit www.cwr.uwa.edu.au and click on "Splashback"

From

Richard Segal

MURRAY-DARLING FRESHWATER RESEARCH CENTRE

Albury:

Researchers at MDFRC and the Johnstone Centre – Research in Natural Resources and Society (part of Charles Sturt University), gathered for a social afternoon at MDFRC on Wednesday 28 August for informal and brief presentations on research projects, to try to increase linkages and collaborations between the two groups.

The Hon. Dr Brendan Nelson MP (Minister for Education, Science and Training) and Mrs Sussan Ley (Member for Farrer) visited the MDFRC on Friday 16 August. **Ben Gawne** gave the politicians and their media liaison officers an overview of the research being undertaken at MDFRC. Dr Nelson and Mrs Ley then joined staff from MDFRC for morning tea, along with invited guests from Charles Sturt University and the Riverina TAFE's National Environment Centre. Dr Nelson was in Albury to present excellence awards to employers from across Australia.

Rivers and Estuaries, a new research directorate in CSIRO Land and Water, held a Planning and Development meeting at MDFRC on Tuesday 10 September. More information later.

Alison King (NSW Fisheries) and **Dave Crook** are leaving Albury to commence employment at the Arthur Rylah Institute (Department of Natural Resources and Environment) in Heidelberg at the end of September. We wish them all the best in the big smoke.

From

Rhonda Sinclair

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CENTRE FOR PALYNOLOGY AND PALAEOECOLOGY, GEOGRAPHY AND ENVIRONMENTAL SCIENCE, MONASH UNIVERSITY

Since our last correspondence, we have had one departure. **Michael Reid** is helping reverse the cross-Tasman brain drain and has joined New Zealand's National Institute for Water and Atmospheric Research in Christchurch. Michael is greatly missed, though billabong palaeoecology continues apace in his absence. PhD candidate **Paul Leahy** has finished counting diatom cores from three billabongs on the Yarra River (Victoria) which have histories of between 300 and 1000 years. Paul is also developing diatom-based transfer functions to quantitatively infer past water quality (particularly phosphorus concentrations) from these sites. Honours student **Kate Adamson** has completed pollen and diatom analysis from two Murray River billabongs, respectively, immediately above and below the confluence with the Murrumbidgee. Jennie Fluin's PhD thesis "A diatom-based palaeolimnological investigation of the lower Murray River" has been accepted. Jen's achievements don't end there, with the birth in March of her second son. The proud father, **John Tibby**, has been merging Jen's, Michael's and his data sets for inferring past lake/wetland pH. This has been used to reconstruct pH changes in Michael's Goulburn River billabong sites which exhibit marked increases in pH through the European period, in contrast to over 3000 years of pre-European pH stability.

From

John Tibby

AUSTRALIAN WATER QUALITY CENTRE AQUATIC ECOLOGY & BIOMONITORING SUB-UNIT

Since our last report in February we have undergone a major change. Two of our staff have been seconded to other AWQC departments, **Daria Taylor** to the Customer Services Unit and **Amber Lang** to the Water Quality unit.

New projects include the addition of another WWTP monitoring program, two new Catchment Water Management Board projects, an environmental flows project and monitoring a polluted groundwater inflow to a major river.

The new activated sludge plant at Bolivar WWTP has been successful in improving the quality of effluent but has had the side effect of making all the stabilisation lagoons a better habitat for midge larvae. We are monitoring the population changes and working with SA Water on biological control measures. The ability of the Billabong Mussel, *Velesunio ambiguus* to act as in-line water quality monitors is being investigated in a joint project with University of SA. The possible release of environmental flows from major reservoirs is under investigation.

I will be attending ASL Congress in Margaret River and taking the opportunity to see the range of environments between one wine growing area and the next. Fish may be sampled on route.

From

Peter Schultz

MEMO FROM A TENDER PLACE

WHY BIOMONITORING SHOULD BE ABOUT MORE THAN "THE BUCKS"

The ASL charter is to further our understanding and promote the wise use and sustainable management of our inland waters. This article is intended to attempt to ensure that biomonitoring in the inland waters of Australia is performed with scientific rigour. This means that results can be used with confidence to protect the aquatic habitats that do much to enhance our environment. It is perhaps more the area of groups such as NATA, but members could consider whether ASL can develop a protocol for "best practice biomonitoring" that can be provided to organisations that wish to carry out monitoring.

The use of biomonitoring is becoming more widespread in Australia as our citizens and even our politicians realise that perceived changes to the environment need to be measured. Freshwater biomonitoring is somewhat well known due to the importance of rivers and other waterbodies in our generally arid country. It is a growing area that many ASL members are dependent upon for their employment. This article deals with our experiences regarding the use of macroinvertebrates but the principles relate to all forms of biomonitoring. We suggest that ASL or its members may have a role in ensuring quality control in this process.

In these days of tight budgets and transparency in public spending, the preferred method of determining which organisation will perform biomonitoring projects is to call for tenders. As we see it, this process can cause some problems. Many organisations that wish to use this method, such as Catchment Management Authorities, Regional Councils and even some Government Departments do not always have staff with the necessary scientific expertise to assess tenders of this nature adequately.

Sometimes, when questioned about the design or requirements of a monitoring program, the manager responsible for the tender process must refer to their technical staff for answers to simple but relevant questions (e.g. how were your samples collected?, to what taxonomic level is identification to be made?, what habitats are they from?). The answers to these can of course have a huge bearing on the price of a quote that is supplied in the tender bid. However, it is not always apparent that scientific matters are taken into account when the successful tenderer is chosen. Sometimes it seems that economics wins out over science and the cheapest quote is chosen without consideration of the relative scientific merit of each bid. This may mean that such important requirements as QA/QC of identifications, establishment of voucher collections and the dispatch of unknown specimens to experts are not carried out.

Of course to an economically rational manager in the tendering organisation it may be regarded as "overservicing" to include such things in a tender bid when the potential client has not asked for them. If costs can be cut so that your organisation wins the tender over another organisation then this is obviously to your advantage as you keep your job and the bills can be paid for a few more months.

The disadvantage to this is that the organisation that wishes to have the monitoring carried out may not get what they think they are paying for. For example, Group A wins a tender from Company Z to carry out work and provide identification results in the first year, but do not establish a voucher collection or preserve samples (because these extra things cost money and Mob Z didn't think it was important). The next year Company Z think they should monitor again as they got some good results and have some more money (they weren't prepared to let a tender long-term in the first year as they didn't want to get locked into something they were unsure of). This time Group B cut their costs and wins the tender. However, when the results come in they have used different names for some bugs compared with Group A, but there are no voucher samples to compare and the expert from Group B says that the names that Group A used are now out of date for that area. This means that instead of having two years of results of monitoring that can easily be compared, Company Z has data of doubtful validity even though they have come from the same sites. Company Z didn't have scientist involved in the tender assessment who could have asked questions about the long-term data validity and pointed out the importance of including QA/QC.

To summarise, there would seem to be an economic argument and a scientific argument that may have contrasting effects on a tender bid. The economic argument says that only what the client asks for should be included in the quoting process. The scientific argument says that a quote should include all processes that are required to ensure the scientific rigour of the biomonitoring in the long-term. Often the organisation that is calling for tenders may not see the need for some processes because they do not understand how they affect the quality of the results. Unfortunately, the monitoring has been designed without input from someone with the requisite knowledge.

We would like to ask a few questions of ASL members.

- Does anyone else have experience of tendering processes (or even simply providing quotes) in which it would seem that cost is the overwhelming factor in deciding the selection of a bid rather than the merit of other factors such as QA/QC processes etc?
- Have any members been involved in assessing tenders of this type? It would be useful to know if our perception of the economic factor importance is indeed a fallacy.

Establishment of a best practice protocol will enable a minimum standard to be established for all monitoring and may help groups that do not have detailed scientific expertise to better assess tender documents.

The Aquatic Ecology and Biomonitoring Group, Australian Water Quality Centre, Adelaide.
(whose members are largely dependent upon biomonitoring tenders for their employment).

COOPERATIVE RESEARCH CENTRE FOR FRESHWATER ECOLOGY

Professor Gary Jones is the new Chief Executive of the CRC for Freshwater Ecology.

The Chairman of the Board of the CRCFE, Dr John Langford, announced that Professor Gary Jones will take over as Chief Executive of the CRC from 1st July, following the stepping down of Professor Peter Cullen. Professor Jones will continue to be located at the University of Canberra.

Farewell Note from **Peter Cullen**:

"I have now finished in the position as Chief Executive of the CRC for Freshwater Ecology and Gary Jones takes over next week. I wish Gary well in this new challenge, and he knows he has my full support and that I will give whatever assistance in this transition period that I can. I am now undertaking a two-month study leave at the University of Canberra before I retire at the end of August.

I have been quite overwhelmed by the nice things so many people have said at various farewell functions. I know we have made a difference to the way water is managed in this country, and we all should take pride in that achievement. I have been privileged to be the front man delivering our knowledge in many ways, but the real credit goes to those of you in the CRC creating that knowledge and those insights that we have been able to deliver.

Many of you have sent me emails in the last few days as I finish up. Thank you for your kind wishes and support.

It was announced yesterday that I have been appointed to the Board of Land and Water Australia, and I look forward to that new challenge. I will be continuing my work with the Lake Eyre Scientific Advisory panel, and various other roles. I intend to continue writing on national water policy, education and knowledge management. I will however, be working less, and making time to smell the roses.

Thanks again for your support over the last decade. The future for the CRC looks great. Good luck to you all.

My new address is PO Box 89, Gunning, NSW 2581, and my phone number is 02 4845 1245. My email remains the same."

A POSTCARD FROM THE FREE MARKET

JUST DON'T SAY IT!

If I hear it one more time, I think I will scream. Every time I go to a conference/workshop and pick up the receipt for payment, some-one says it. Every time I complain about the outrageous cost of Professional Indemnity insurance, some-one says it. Every visitor I have to my somewhat less than salubrious home office who spots the flat screen LCD panel I use with my computer says it.

"At least you can claim it as a tax deduction." And it's always said with that sly grin, a tilt of the head and a wink that seems to imply that we make some sort of extra money out of these tax deductions. Every-one seems to think that tax deductions for expenses are some sort of back door way to wealth and fortune for lone consultants. That you hard working PAYE slaves are somehow supporting our extravagant lifestyles through your taxes, via our tax deductions. As if the tax deductions are what funds our beach houses and the trips to the Bahamas each year.

Can we put this little myth to bed once and for all. They are not. They mean nothing to the personal final balance sheet. The aim of working, in a financial sense, is to have cash in hand. It is the net figure of your income that is the ultimate goal of working. How much you have to spend down at the shops, at the pub, at restaurants, and on those Bahaman trips.

So, let's say I earn $1000 (ah, a nice mornings work). Every three months, I have to pay tax to the government. If the tax rate is, say, 15%, I have to pay $150 from that $1000 as tax. So, out of my $1000, I have $850 left to spend.

And lets say it costs me $150 to earn that income (phones, internet, computers, postage, conference fees, travel, accommodation, cars, microscopes, pens, pencils, paper etc etc etc – last year, my expenses were 15% of my gross income). So, out of the original $1000, I now have $700 left to spend on goods and services for me (more about the Goods and Services scam in a later postcard). Not bad, I hear you say.

At the end of the year, I put in a tax return saying I earned $1000 and spent $150 to earn it (the wonderful tax deductions). So my taxable income is $850, on which $127.50 is owed as tax . I've already paid $150 in tax, so I get a refund of $22.50 on the tax deduction. Add that to the $700 that I have to spend after tax and expenses, leaves a total net value to me from the $1000 of $722.50.
OK remember that figure - $722.50.

Let's say now that I am a PAYE tax payer. I too earn $1000. All the things my evil twin consultant claims as tax deductions are supplied by my employer – phones, internet, computers etc etc etc. How much tax do I pay on the $1000? At 15%, that's $150, leaving the PAYE taxpayer with .... um ..... $850. Unless I miss my guess, that means as a PAYE tax payer, I am $127.50 cash in hand better off.

Dollar for dollar, PAYE taxpayers are far better off than consultants. While we have tax deductions, they add nothing to our income. Sure, we charge more as an hourly rate, but we don't always work all the time, let alone being paid for 4 weeks annual leave, 5 days sick leave and superannuation.
So can some-one please explain where this apparent magical wink-wink, nudge-nudge source of extra spending money that comes with a tax deduction comes from? Either explain it ..... Or don't say it.

CORRECTION

In the last postcard, I was claiming that we limnologists need a Stonefly Hunter, some-one who will take on the role of Steve Irwin and throw all sense of dignity to the wind in order to publicize our cause. That's the only way I saw that we will get good media attention. Well ....

Recently, I went to the launch of a CSIRO book. "The Waterbug Book". Written by John Gooderham and Edward Tsyrlin. If you don't know John and Eddie, they bear little resemblance to Steve Irwin (just check out the photo of the authors on the back cover if you have any doubt). The book was launched by John Landy, Governor of Victoria, wearing a formal business suit (no hint of Safari Jacket). The crowd was primarily made up of the cast of "The Usual Suspects" – Victorian limnos, bug hunters just back from the field (literally), and a few other odd people. Scones; jam and cream by the lake in the Botanic Gardens on an idyllic sunny warm summer morning (trouble was it was winter, no rain for ages). Peace and love all around. Nothing dramatic there to get us media coverage.

The next morning, reading the "Age" (our Melbourne paper) and there it was, a mention in a column by a regular journalist who was at the launch (I wondered who that was skulking at the back with a note pad). Not bad, at least we got a mention. Read a bit further through the paper and ..... there it is again!. Another columnist mentions the book in a regular wildlife column. Identifying some bugs he caught using the book and enjoying the experience. "What a lovely little book" he concluded.

And he is right, it really is a stunning book. And pitched just at the right audience we should be trying to get to. Not the scientists (we have our own keys and papers), but the middle ground – interested amateurs, anglers, Waterwatch members, from school kids to undergrads, every-one who avidly watches those wildlife documentaries. It's a pretty well perfectly pitched book for what should be one of our main targets. Written with clear, simple, interesting but accurate language. Even the key, with cartoon characters, seems to hit the mark. And astonishing photos (so that's what they look like live, not bleached and curled up after weeks in ethanol, with broken cerci and missing gills). I can imaging this being on bookcases in thousands and thousands of homes, triggering further interest in freshwater ecology for thousands and thousands of people.

And two big mentions in the major Melbourne press in a single day! Amazing work! Now, if only we can get John and Eddie out of the rubber gear and into some stylish pleated khaki, and get them on film wresting some large native aquatic animal .....

Tim Doeg

INFORMATION FROM AND FOR MEMBERS

National Threatened Species Day and Biodiversity Month

As many of you will know, the 7th September was National Threatened Species Day (NTSD). It is the gateway to Biodiversity Month, with activities being held on NTSD and across the month of September which focus on raising awareness for our threatened species and biodiversity in Australia, as well as providing an opportunity for community groups to stand up and celebrate their efforts.

Each year a calendar of events is organised for the month, and this year it can be found at www.ea.gov.au/biodiversity/month. Please circulate these details to anyone who might be interested, and encourage the local community to get out there to take part in some of the activities that are on offer.

If you are running an event that is not shown on this website, please be sure to contact your local Threatened Species Network state coordinator and let them know about your activities. It is important for TSN and EA to know what activities are conducted across the state in support of the month, and we may be able to help promote your event. Your coordinator can also provide you with some resources and information for your activity. TSN is a joint program of WWF and the Endangered Species Program of the Natural Heritage Trust

Please also take the opportunity to use the month to highlight threatened species and biodiversity issues and increase awareness, whether it's through media releases, activities of your own, or simply spreading the word about NTSD and Biodiversity month.

Alison Colyer, NSW & ACT Co-ordinator, Threatened Species Network
Email: acolyer@wwf.org.au

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Australian Salinity Action Network (ASAN)

Thought I would share with you a few thoughts about some outcomes from the very successful ASAN launch held on Tuesday 20th August. It was great to have such a wide diversity of people and organisations come together to discuss ways forward in addressing salinity. I believe that through relationships formed and the real sense of community spirit generated from the day that we will see good and constructive things come from it.

A list of participants can be downloaded from the new website for ASAN at: http://www.asan.net.au

The CD ROM containing the powerpoint presentations, abstracts, papers, ASAN Newsletters, and other useful and relevant salinity and environmental documents is available for ordering. This can be downloaded from the website.

The ASAN launch & forum was only the beginning of building a community network to address the salinity issue. What's next?

ASAN intends to make this an annual event with "specific topic" workshops throughout the year.

Issues raised at the launch will continue via the ASAN community discussion forums on the website. Go to www.asan.net.au and click on "Discussion Communities". Click on either "Enter real time chat room" or "Enter Discussion Forum". This will take you to either the Yahoo Groups for ASAN or Ez Boards respectively. At Yahoo, it will ask for you to "join Group". Just follow the steps and I will authorise you to use the group. We may be spread across Australia physically, but through the online community forums, our geography will be made irrelevant.

I would like to state a couple of general points that I thought were significant that came out of the day. Some of these are quite radical and have never really been discussed at salinity forums before - part of what made this forum unique. I thank Professor Stuart Hill for his wise words during his keynote address.

1. That we need to think "outside of the square". That is, if we want to see positive change in the environment we need to understand our role as "caretakers" and be willing to be receptive to new ways of thinking about a problem in order to find a solution. To think creatively, which is a prerequisite to coming up with relevant and new concepts, we need to be passionate about the cause and have a sense of ownership of it. Not only individually but also as a whole community. Without passion and ownership, don't expect any change. Are we too complacent?

2. That a prerequisite to changing the environment is changing our attitudes towards one another in communities and towards different organisations. Building positive relationships between individuals and organisations is fundamental to changing behaviours which can influence and can ultimately lead to better working and environmental practices. The onground implementation of solutions and land management is not too far removed from this.

3. Don't expect to come up with good environmental policies from inaccurate science (as one example) and don't expect to follow good science until you are receptive to listening to new ideas. Conventional views on salinity were challenged and have now got people thinking about the implications of current policies if the science used to formulate them is inaccurate.

4. It is no good holding on to oversimplified solutions, which is unfortunately what many scientific and policy models relating to salinity are based on. Apply the previous dot points if we truly want to create environmental change.

5. An important part of engaging the general community in understanding the salinity issues is through awareness and education. An important way to create awareness is through community festivals. People enjoy these and festivals are a great way to create awareness.

6. More thoughts will come later .... we have only begun!

For those that attended, thanks again for your input to a great day. Keep the process going!

Dr John Bradd, Founder, National Coordinator, ASAN
ph: (02) 4229 6162, fax: (02) 4229 5060, www.asan.net.au

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Data Sheet: Freshwater Fishes of South Eastern South Australia

This 8 page brochure aims to help identify and understand the freshwater fishes of the south east; show the uniqueness and importance of these aquatic fauna; highlight potential threats to native fish; and source of additional information. Further information from Lisa Wilkins, Department of Environment and Heritage, phone (08) 8755 3166.

Salinity and Water Quality - National Action Plan Roundtable

The first National Action Plan Roundtable is being held in Mildura on October 27-30, 2002. This roundtable is expected to attract people from the 21 priority regions, natural resource managers, industry and regional representatives.

Registration and program information will be available for download from http://napswq.gov.au from Monday 9 September 2002.

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The 3rd Worldwide Dragonfly Association (WDA) International Symposium of Odonatology will be held in the historic town of Beechworth, Australia, **8-13 January 2003**. The organiser wishes to welcome all people with an interest in dragonflies, whether professionals or amateurs, collectors, photographers, or anyone with a general interest in nature and conservation. The symposium will be held at the historic May Day Hills Campus of La Trobe University which occupies a 106ha site of the old Mayday Hills Hospital, 1km from the town centre of Beechworth.

Beechworth is in north-eastern Victoria, between the two major Australian capital cities, Sydney (600km) and Melbourne (270km). Beechworth is nestled in the foothills of the Australian Alps, 30km south of Albury-Wodonga. It is one of the best preserved and most beautiful gold towns. It is now classified as a "Notable" heritage town with over 30 buildings on the National Trust's register, with many of the buildings dating back to the 1860's. It still retains the basic character and appearance it had developed by the 1880's. Presently, it has a population of 3,300 and has become a popular tourist town. There are many interesting attractions for tourists. The most notable are the fine government buildings built of local honey-coloured granite in the 1850's. The Beechworth Historical Park hosts spectacular scenery, flora and fauna and many historical reminders of the gold mining days.

There will be three field trips. **Field Trip 1** (8th January 2003) will be a sight-seeing and collecting bus tour of the Beechworth Historic Park in the morning, and in the afternoon visit Beechworth's most notable historic buildings. **Mid Symposium Field Trip** (11th January 2003) will follow the Kiewa River from its source in the beautiful Snow Gum ridges of the Bogong High Plains down to the lush farming valley where it joins the mighty River Murray. We will travel 100km, over an altitudinal decline of 1400m, and encounter some 25 species of dragonflies, which are ecologically partitioned along the river (as discussed in the plenary session). **Post Symposium Field Trip** (14th to 18th January 2003) will combine dragonfly collecting with visits to cultural and heritage sites, and the wilderness areas of several National Parks.
Visit the Symposium web site: http://powell.colgate.edu/wda/Australia/Home_page.htm

John Hawking, MDFRC, Phone (02) 6058 2340, John.Hawking@csiro.au

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Note from Alistar Robertson

My new position will be Executive Dean of the Faculty of Natural and Agricultural Sciences at the University of Western Australia. The Faculty was formed in late 2001 by amalgamating the previous Faculty of Agriculture with the Departments of Zoology, Botany, Geology and parts of Geography from the Faculty of Science. The new Faculty has significant research programs in all of the above areas and offers a variety of undergradutae courses across the spectrum of the basic sciences and natural resource management. I start work in early January. I will maintain a 20% focus on research, but my main role will be facilitating teaching and research within the Faculty and representing the university regionally, nationally and internationally.

FASTS

JUNE 2002 CIRCULAR FROM FASTS

IN SUMMARY

1. THE PRIME MINISTER AND THE "SECOND LEG"
2. PRIME MINISTER'S SCIENCE COUNCIL
3. NATIONAL RESEARCH PRIORITIES CONSULTATIVE PANEL
4. HIGHER EDUCATION REVIEW
5. WORKSHOPS FOR MEMBER SOCIETIES
6. SCIENCE MEETS PARLIAMENT DAY
7. NEW EDITION OF FASTS' POLICY DOCUMENT
8. STATE GOVENMENTS' GROWING INTEREST IN SCIENCE
9. FASTS' WEB SITE

1. THE PRIME MINISTER AND THE "SECOND LEG"

The $2.9 billion dollar Innovation Statement was launched in January 2001. At the time FASTS welcomed the funding boost as a promising first step.

But it needs far more than $2.9 billion over 5 years to allow Australia to catch up to the average OECD expenditure in science and research.

Recently I wrote to the Prime Minister asking him what his Government was planning to do about the next step, the "second leg" of the Innovation Statement. The letter read in part:

"We are concerned that some elements in your Government may regard science and technology as a job that was completed with the announcement of "Backing Australia's Ability". Our concern was heightened when you outlined the priorities for your Government in a speech to the Liberal Party Federal Council on 13 April, and science and technology was not among them."

The Prime Minister has responded, saying that his Government is still monitoring the outcomes of the initiatives announced in 2001. He goes on to say:

"*It would, however, be premature for PMSEIC to consider a 'second stage' package of spending measures before the current initiatives have been implemented fully and evaluated.*"

FASTS will continue to press for a proper national investment in science and research. You can read the full text of both letters on our web site: www.fasts.org

2. PRIME MINISTER'S SCIENCE COUNCIL

The first full PMSEIC this year was held on May 31, beginning with a dinner hosted by the Prime Minister. Although proceedings of PMSEIC and its Standing Committee are confidential, the text of three key presentations will be shortly available on the web.

The first dealt with sustainable production, pointing to the increasing need for a triple bottom line reporting within the corporate sector, and requirements by major importers of foods to have guarantees from their suppliers that sustainable production methods have been used. The Government has been asked to explore how such matters can most appropriately be handled.

The second was on biodiversity and questioned whether current government policies were coordinated in this regard; and the third dealt with aquaculture and the export opportunities that this offered.

Whilst all three presentations looked at economic considerations as well as scientific ones, there was the overriding theme that good science would be necessary for these areas to be properly addressed.

The Council was also briefed on progress with *Backing Australia's Ability* and on the Higher Education Review and the National Research Priorities processes.

3. NATIONAL RESEARCH PRIORITIES CONSULTATIVE PANEL

The Government is determined to maximise the return to Australia of our research efforts, by concentrating research in areas where we have a competitive advantage and putting new efforts into areas of weakness where we should have a stronger presence.

FASTS supports this view.

The practicalities are interesting. I am a member of an eight-person consultative panel, along with FASTS' Board Member Melissa Little (both of us serving in a personal capacity). The Panel is chaired by Chief Scientist Robin Batterham.

We have been split into two groups, with each conducting consultative meetings throughout Australia (dates and times are on the FASTS' web site).

There are two stages of the process, and two important dates for submissions:

a. determining the framework for setting national research priorities (submissions close 28 June)
b. views on what these priorities are (submissions close 9 August)

The Government intends to have priorities in place for the 2003 Federal Budget.

There appears to be common acceptance that it is appropriate for the Government to set national research priorities and that these should be both thematic and inspirational and should not direct funding to the exclusion of other promising areas of good science.

In another part of the process, Science Minister Peter McGauran consulted FASTS directly. He hosted a dinner at Parliament House for 8 members of the FASTS' Board and Executive, to discuss informally these two matters

4. HIGHER EDUCATION REVIEW

I am a member of the Higher Education Review Reference Group. The first meeting in May was primarily to discuss the process to be adopted, and to offer initial comment on *Higher Education at the Crossroads.*

DEST officers are now preparing five issues papers which will form the basis for national debate on higher education issues. In the light of these it will be important for FASTS and its Member Societies to make submissions in which the importance of science is highlighted, both in terms of the need to produce scientists and mathematicians and for universities to participate fully in the national research effort.

I would appreciate Member Societies forwarding a copy of any submissions they may make to the FASTS office, so that I can read them personally. Submissions close on 28 June; and further information about making them is at: http://www.dest.gov.au/crossroads/how_sub.htm

5. WORKSHOPS FOR MEMBER SOCIETIES

I am pleased to announce that our proposal to run capacity-building workshops for our Member Societies has been successful. The first stage will be to establish the content of the workshops. What do you as office-bearers of our Member organisations need to make your jobs easier in these challenging times? How would you like the workshops to be organised?

We have a good broad indication of what our Members think from earlier surveys, but now we need to refine these ideas.

Over the next few days FASTS will be contacting all Presidents of Member Societies, first by email and then by phone, to work out how each Society might take advantage of these workshops. We expect to offer the first workshops by about September.

6. "SCIENCE MEETS PARLIAMENT" DAY

This event will be on Tuesday-Wednesday 12-13 November in Canberra. It has several new features this year, including a science-industry-Parliamentarians dinner on Wednesday night, at prestigious Members' Dining Room at Old parliament House.

SmP provides an interesting opportunity to run regular business meetings of your Society, or to hold side meetings like last year's discussions on biotechnology and Nanotechnology. Please discuss these with the FASTS' office.

Full details of the program are on our web site.

Here are some comments from last year's participants: *Very well organised. The impact is becoming obvious. The pollies are taking this seriously. I have no doubt that past SmPs have helped put science on the political agenda. A fantastic experience. I'm glad I came and congratulations to FASTS for making it possible! Both MPs were cordial. The level of interest in science was high and unexpected to me.*

And one from an obvious masochist: *Great, let's do it again. I would like more interaction with MPs - a boat trip?*

7. NEW EDITION OF FASTS' POLICY DOCUMENT

The fourth edition of the FASTS' Policy Document will be launched later this year. One of the most comprehensive statements on science policy, the document will cover all aspects of science from education, to research training, funding for science and research, and innovation.

Ken Baldwin is coordinating the production of the document as Chair of the Policy Committee. A draft will be considered by the FASTS' Board next month, and all Member Societies will have the opportunity to comment on the draft before it goes to print. Launch of the revised policy is scheduled for mid-September.

8. STATE GOVENMENTS' GROWING INTEREST IN SCIENCE

It's wonderful to see State Governments competing over the new synchrotron, instead of those disputes about who will host golf tournaments or the Australian Grand Prix.

An illustration is the recently-reported size of the State delegations attending the world's biggest Biotechnology Conference in the US - 140 delegates from Victoria and 90 from Queensland, with both delegations headed by the premier.

SA Premier Mike Rann will also be there, along with delegations from all other States and the Federal Government. NSW will not be sending the Premier, and not even the Science Minister - because it stands alone among all States in not having one.' This mirrors the low profile of science in the Premier State. The expansive budget NSW announced this month contained many spending initiatives, but little to stimulate the research an innovation community.

One hopes State efforts will also contribute to a national vision and priority setting.

9. FASTS' WEB SITE

Our web site should be a central source of information on science policy. As well as carrying the latest information on events such as "Science meets Parliament" Day, the site also links readers to information on current issues like the research priority-setting exercise.

All our media releases are there, as well as speeches and feedback from our events at the National Press Club.

We are putting more resources into the site (at: www.fasts.org) and will soon be upgrading to a new design. Suggestions and comments welcome.

Chris Fell, President, 14 June 2002

Toss Gascoigne, Executive Director, FASTS Email: fasts@anu.edu.au

MEDIA RELEASE 5 SEPTEMBER 2002

Workshops a boost to Learned Societies

Australia's professional and learned societies are being squeezed by the pressures of modern life, but a series of national workshops is set to help them meet the challenge.

Societies play a valuable role in running conferences, circulating newsletters, and organising international activities and the professional development of their members. They are largely run by honorary office-bearers.

Professor Chris Fell, President of FASTS, said that these volunteers contribute thousands of hours and add millions of dollars of value to the economic, professional and cultural landscape, but they are finding it increasingly difficult to satisfy the demands of their professional and volunteer roles.

"Everyone is expected to do more with less," he said. "We've designed the workshops to help cope with the pressure and to deal with the matters of most concern to our Members."

He said the major issues identified by the Member Societies making up FASTS include:

- Delivering membership benefits and providing value for subscription
- How to influence policy decisions
- Engaging the public in discussions on science, through the media
- Setting priorities for societies
- Making the most of modern communication tools

"We spoke to all the Presidents of our Members, and found such strong interest that we are running two separate workshops," he said. "One is on planning and communication, and the other on the nuts-and-bolts of managing a society."

Ten one-day workshops will be run in all major capital cities, with the series opening in Melbourne on October 8.

Professor Fell said that although the workshops were designed according to the views of FASTS' Members, other societies could attend. They would be relevant to societies from arts and humanities.

"More than ever scientists and other professionals need to fight for a fair share of the national resources," he said. "But everyone is so intent on survival they don't have the time - it's a problem common to all disciplines."

"There is Government recognition of the valuable role being played by the professional and learned societies. Science Minister Peter McGauran has been interested and supportive, and the workshops are being funded through a grant from DEST."

The schedule of workshops and registration details are on the FASTS' web site: www.fasts.org

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

INVITATION TO LAUNCH OF FASTS POLICY DOCUMENT 9 SEPTEMBER 2002

Dear All

On behalf of Chris Fell, I would like to invite you to attend the launch of the FASTS' Policy Document.

This will be at 10 am on Monday 23 September at Parliament House in Canberra.

The launch will be to an audience of people interested in science policy. Science Minister Peter McGauran will be invited to address the group by Chris Fell.

The Policy Document has been heavily revised and expanded, and is a comprehensive statement on science policy at a time when these issues are actively considered by Government.

Tea and coffee will be served, and the media will be invited.

If you are able to attend or would like to nominate another member of your Society, please respond to the FASTS office by email or phone. We need to provide Parliament House with a list of all guests in advance because the launch will be in a secure area.

Regards

Toss Gascoigne, Executive Director, FASTS. Email: fasts@anu.edu.au

ARTICLES

The Audit is now Available

The National Land and Water Resources Audit. Australian Catchment, River and Estuary Assessment. Vol 1 has been released by the Federal Minister for Agriculture, Fisheries and Forestry, Warren Truss. See it at: http://www.nlwra.gov.au/

The Audit provides a comprehensive catalogue of the latest information and data on Australia's land, water and vegetation resources. The CRCFE, together with CSIRO Land and Water, carried out the first national Assessment of River Condition for the Audit.

The Prime Minister's Science, Engineering and Innovation Council

The Prime Minister's Science, Engineering and Innovation Council's working group on 'Sustaining our natural systems and biodiversity' presented to the PMSEIC Council in Parliament House on May 31, 2002. For a copy of the paper (and powerpoint presentation) it is available at:
http://www.dest.gov.au/science/pmseic/meetings/8thmeeting.htm

Members of the working group were:
Dr Steve Morton, Chair, Chief, CSIRO Sustainable Ecosystems
Mr Greg Bourne, Regional President, BP Australia Limited
Mr Paul Cristofani, Policy Manager, Environment, National Farmers' Federation
Professor Peter Cullen, Chief Executive, CRC for Freshwater Ecology
Professor Hugh Possingham, Director of the Ecology Centre, University of Queensland
Dr Mike Young, CSIRO Land and Water.

National Action Plan for Salinity and Water Quality

For important updates on the National Action Plan for Salinity and Water Quality see:
http://www.napswq.gov.au/

'Getting It Right' Symposium for natural resource management

An excellent symposium called the 'Getting it Right' symposium was held in Adelaide recently. A summary of the work is now available at: www.plevin.on.net/GIR. The aim of this symposium was to present guiding principles for natural resource management in the 21st century. It considered biophysical, social, economic and institutional reform.

Funding for aerial surveying of salinity prone areas in South Australia

Aerial surveying will be carried out in the Mount Barker, Port Pirie and Loxton areas of South Australia to map saline areas and salt movement. This data will be used to predict areas which may be affected by salinity in the future. This project has been allocated $3.8 million under the National Action Plan for Salinity and Water Quality, financed jointly by State and Commonwealth Governments. For further information, contact Dr David Dent, Bureau of Rural Sciences, Agriculture Fisheries and Forestry Australia on 02 6272 5690 or email david.dent@brs.gov.au or Dr Glen Walker, Department for Water, Land and Biodiversity Conservation South Australia on 08 8303 8743 or email glen.walker@csiro.au.

The South Australian Revolving Fund - BushBank - launched

The South Australian Revolving Fund, BushBank was launched in Adelaide on World Environment Day, 5 June 2002. This fund, which will be administered by the Nature Foundation SA, was established with funding from State and Federal Governments. It will be used to acquire, protect and on-sell land in South Australia with significant wildlife and habitat conservation values. Donations of land to BushBank are tax deductable. For further information on BushBank, please contact Sharyn Paull at the Nature Foundation SA on 1300 366 191 or visit http://www.naturefoundationsa.asn.au

Inaugural Environment Management Systems (EMS) Steering Committee meeting held in Canberra

The aim of the inaugural Environment Management Systems (EMS) Steering Committee meeting was to further encourage industry and the community to work with governments to finalise the national EMS framework and develop criteria for regional pilots, according to a media release from the Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry. Senator Troeth stated that 'Environmental Management Systems are about establishing long-term partnerships to improve environmental management and sustainable agricultural production practices.' To view the entire media release, visit http://www.affa.gov.au/ministers/troeth/releases/02/02023t.html

Australian Natural Resource Atlas Report

The National Land and Water Resources Audit has released three major theme reports, together with an assessment of the health of landscapes across Australia. The reports have been released which map Australia's environmental 'hot spots' and provide an overview of environmental threats, and which for the first time provides a detailed information system of Australia's vegetation. he reports, funded under the Natural Heritage Trust, are intended to provide planning information and guide the implementation of the NHT and the National Action Plan for Salinity and Water Quality.

The report reveals that just less than half (152) of Australia's 354 subregions are in good health, but that 37 (or 10 percent) are under stress. The report shows that the most stressed regions are concentrated in the south-east of the continent in south-western Western Australia, the Tasmanian midlands, southern Queensland and the lowlands of Queensland's wet tropics. The Landscape Health assessment is part of the Audit's ecosystem health theme focusing on: rivers & estuaries, their catchments, and aquatic ecosystems and regional landscapes; their recurrent patterns of geology, landform, soil and associated biota.

The second report, Australian Native Vegetation Assessment 2001, brings together the best available information, maps and data on native vegetation. It is the first comprehensive, Australia-wide vegetation information system.

The reports are available in hard copy by emailing info@nlwra.gov.au or faxing (02) 6257 9518 and by visiting the Australian Natural Resources Atlas website: http://www.nlwra.gov.au/atlas

RAMSAR Report

Australia has released its report on Australia's compliance with the Ramsar Convention for the 8th Conference of the Contracting Parties to the Convention to be held in Valencia, Spain in November. The report concludes that whilst advances have been made in wetland management and conservation, Australia will face ongoing challenges and there are areas where improvements can be made. Areas of particularly challenge that will require attention in the next triennium include better management of Ramsar sites to minimise changes in ecological character taking place.

A pilot ecological character project will work towards better descriptions and understanding of the ecological character of Ramsar sites to assist Australia to meet its reporting and monitoring requirements under the Convention. The report recommended that Australia needs to further explore the use of incentives to assist wetland conservation and to continually improve wetland and waterbird inventory to support wetland decision making at catchment and site levels.

Copies of the report can be downloaded from http://www.ea.gov.au/water/wetlands/ramsar/report8/index.html

Proceedings on the Workshop on Developing a Proposed Framework for a Wetland Inventory, Assessment and Monitoring System (WIAMS) in Malaysia

This proceeding is based on the presentations, outcomes and discussions held at a workshop hosted by Wetlands International-Malaysia Programme that was funded by the Dutch Ministry of Foreign Affairs (DGIS) under the Conservation and Wise Use of Wetlands – Global Programme based in Netherlands. The workshop was held on 18 and 19 April 2002 in Kuala Lumpur and was supported by the Ministry of Science, Technology and the Environment Malaysia. The workshop was organised to seek inputs and comments from the various stakeholders on developing a proposed framework for a Wetland Inventory, Assessment and Monitoring System (WIAMS) in Malaysia.

A total of 62 participants from 43 agencies in Malaysia (government agencies - both at Federal and State, non-governmental organisations, universities, research institutions, international agencies, private/corporate bodies) attended this workshop. Both the Wetlands International-Malaysia Programme and Wetlands International-Asia Regional Programme staff were present to assist in facilitating the workshop. The proceedings of the WIAMS workshop now on line at www.wetlands.org/awi/Malaysia.htm

Salinity Hazard Map

A salinity hazard map has been released for the Queensland Murray- Darling Basin which highlights the potential risks of the area being affected by salinity over the next 30 to 50 years. The map, produced by the Department of Natural Resources and Mines in partnership with the Queensland Murray-Darling Committee, shows that up to 26 million hectares of land in the area could be affected, with high salt levels in its soils and groundwater. The map has been developed as a means of determining areas which would be sensitive to land use change and the potential to develop salinity, with much of the land in the region being used predominantly for agricultural purposes, and supporting irrigation and dryland cropping. Salinity hazard maps are also being prepared for the Fitzroy, Mary-Burnett, Burdekin and south-east regions of the State. For further information go to www.nrm.qld.gov.au/salinity/

Threatened Species Consultation Register

Environment Australia has established a register of individuals or organisations to be consulted on applications for permits to undertake actions that may impact on listed species, as specified under Section 266A of the Environment Protection and Biodiversity Conservation Act 1999. Those listed on the register will be advised of each application for a permit to undertake an action that may impact on a threatened species. Those individuals or organisations on the current register must re-apply to be included for the new register. The registration period is from September 1 2002 until August 30, 2003. To register, send an email to Martin Paull at martin.paull@ea.gov.au or tel: (02) 6274 2295.

Pesticide Use in Australia

The Australian Academy of Technological Sciences and Engineering has released a report into its major study of pesticide use in Australia and is calling for new policies to be developed based on the information contained within the report. The study included herbicides, insecticides, and rodenticides; human health and environmental impacts; the regulatory regime in Australia; and the likely impact of GMOs on use of pesticides. One of the major recommendations is the establishment of a comprehensive and integrated pesticide use reporting system, as well as the development of an adverse effects register for both human health and the environment. To access the report go to http://www.atse.org.au

NSW Salinity Council Calls for Greater Local Council Role

The New South Wales Select Committee on Salinity has released its report on the management of salinity by local councils within NSW, calling for an increased strategic role for local government in the range of regional processes that have been developed to oversee natural resource management and planning. The report provides an analysis of the barriers to effective council management of salinity and recommendations to remove them; sets out a long-term approach to building the capacity of councils to manage salinity; and provides an assessment of the range of council functions which impact on, or are affected by, salinity and identifies where salinity needs to be managed as part of these functions.

New Centre for Salinity Research

The University of Sydney has established a new Centre for Salinity Assessment and Management to improve understanding and management of saline soils and water resources. The Centre, to be headed by Professor Les Copeland, is intended to bring together research activities within the University, with a focus on the assessment and monitoring of salinity. Contact Professor Copeland on (02) 9351 2527 or email: l.copeland@acss.usyd.edu.au

National Institute of Water & Atmospheric Research - New Zealand's Leading Provider of Atmospheric and Aquatic Science

NIWA is pleased to announce the launch of the National Centre for Water Resources. The new National Centre for Water Resources (NCWR) is a collaborative centre which aims to bridge the gap between science and the community in the field of water resources, by providing science, technology, and resource management services to New Zealand. The Ministry for the Environment and the Institute of Geological and Nuclear Sciences are contributors to the centre, and we are discussing potential contributions from several other NZ organisations. In Water Resources Update we publish quarterly summaries of water quantity and water quality information, as well as topical articles. The first issue is available online at http://www.niwa.co.nz/ncwr/wru/2002-01/

The centre also makes available the benefits of innovative new approaches to flood forecasting, and integrated freshwater databases. For more information see http://www.niwa.co.nz/ncwr/

"The Living Murray – Restoring the health of The River Murray"

The release of *"The Living Murray – Restoring the health of The River Murray"* discussion paper on environmental flows took place at the Murray-Darling Basin Commission on 12 July. This represents the start of a Murray-Darling Basin community engagement process surrounding environmental flows for the River Murray.

The Murray-Darling Basin Ministerial Council's Community Advisory Committee will provide advice to the Council on the progress towards, and process for, achieving a healthy working River Murray.

Community Advisory Committee Chairman, Leith Boully, said it was critical for early community engagement in the process to ensure that decisions were fair and equitable to individuals, communities and the river.

'Everybody who lives in or has an interest in the Murray-Darling Basin will have the chance to put forward their view on restoring the health of the River Murray during the most comprehensive community engagement ever undertaken across the Basin.'

During the next 12 months opportunities such as community forums, focus groups and meetings will take place across the Basin. These will be held for individuals and groups to become informed about the state of the River and to help identify opportunities to improve its health and the long-term sustainability of their communities.

The Murray-Darling Basin Ministerial Council has identified three reference points for communities to focus their initial discussions. The three reference points equate to three different volumes of water that could permanently be transferred from current uses: 350 GL, 750 GL and 1500 GL.

Ms Boully said no decision had yet been made. 'Any decision, including a 'do nothing' scenario has considerable costs', Ms Boully said.

'This is potentially the largest and most complex change that many communities and individuals in the Basin are likely to face. It is important that people contribute in a positive way, clearly describe what a healthy working River means to them, and help develop solutions that recognise the needs of all Basin communities.'

The Ministerial Council also identified a number of actions it will implement over the next years, at a cost in the neighbourhood of $150 million.

This suite of actions will make the best use of the water currently available to the River Murray environment and will result in:

- improved floodplain health
- improved fish management
- improved management of the Murray Mouth, Coorong and Lower Lakes; and
- the establishment of water quality objectives for the River Murray.

Further information can be found on the Murray-Darling Basin Commission's web site: www.thelivingmurray.mdbc.gov.au.

The Waterbug Book"

Edward Tsyrlin and John Gooderham are proud to announce the availability of "The Waterbug Book". A cross between a glossy cookbook and a real scientific text, "The Waterbug Book" caters for the first time to the entire range of people interested in our small, aquatic, spineless friends.

The book has 232 pages, 300 colour photographs, mostly of live animals and 120 diagrams, it can be ordered through the CSIRO publishing website http://www.publish.csiro.au/books/bookpage.cfm?PID=3148

The book is written for a mixed readership. Waterwatch groups, fishing enthusiasts and schools, were the original target audience but the book's comprehensive coverage of all the invertebrates that make their home in Temperate Australia's inland waters makes it a good quick reference to have alongside your collection of professional taxonomic guides. The entire book has been peer reviewed, so the family level (and sometimes genus/species level) information within it is fairly up to date, (although taxonomists have probably changed things in the time it took us to get it printed).

Waterbugs ..... so much more than just fish food.

Science Writers Festival

The Science Writers Festival is back by popular demand! Kicking off in Brisbane on October 3rd, the three-day event will feature a variety of science communication workshops and masterclasses. It's not just about writing - communication skills will be explored in many other forms such as public speaking, use of multimedia, theatre and art.

Throw in a generous dash of song, dance, exercise, exhibits, comedy and lively debate - and you have a festival guaranteed to inspire and invigorate! Whether you are a scientist, a student, a performance or multimedia artist with science-y interests, or a seasoned science communicator, you will find workshops and activities to suit you. Go to www.swfaus.org for information about the program, travel, accommodation and registration options.

River Murray Legislation

A discussion paper has been released on the SA Government's proposed River Murray legislation, outlining plans for a permanent Standing Committee of the Parliament which will monitor the river's health and new powers for the Minister for the River Murray portfolio to control farming and business activities which could damage the Murray's ecology.

In his foreword to the discussion paper, Minister for the River Murray, John Hill, said the intention of the Bill was to give the Government "clear powers over the way in which the River is used and to control planning, irrigation practices, pollution and rehabilitation programs." The discussion paper can be obtained from the Minister's Office, Tel: (08) 8463 5680.

Report on Water Reform

The CRC for Catchment Hydrology has released a technical report on the development of water reform in Australia. The first phase of the CRC Project 3.2 Enhancement of the Water Market Reform Process was to gather background information on water management in Australia, and water reform and water trading in particular. Part of this process was to gain an overview of the nature of water, a history of water management in Australia, and current literature on water reform. The report, The Development of Water Reform in Australia by John Tisdell, John Ward and Tony Grudzinski, is a summary of that overview. It will be available on the CRC website at www.catchment.crc.org.au/publications.

Australian inventories of freshwater ecosystems

The ASL representative reserves working group circulated a draft discussion paper late last year. One of the gaps identified in the discussion paper was the lack of an overview of Australia's inventories of freshwater ecosystems.

I am currently preparing such an overview, and would appreciate assistance. The current draft is available on www.users.bigpond.com/jon.nevill/Australian_fw_inventories.doc. If you have a particular area of interest, and can supply additional detail or reference citations, please contact me by email jon.nevill@bigpond.com or phone 0418 550 265.

Jon Nevill

2002 Eureka Prizes Finalists Announced

Almost $180,000 was awarded to 18 Australian Museum Eureka Prize winners at the 12th annual Australian Museum Eureka Prize dinner, compered by Amanda Keller and Adam Spencer at Fox Studios on 13 August 2002. For more information on the conference, visit http://www.riverhealth.com For a complete list of all Eureka prizes and finalists, visit http://www.amonline.net.au/eureka

Nutrient Management Study

A major R&D program focused on the integrated management of nutrients, sediment and salt in Australian rivers commenced in August, with funding from Land & Water Australia and the Murray Darling Basin Commission. With funding of $3 million over three years, the National River Contaminants Program will build on the National Eutrophication Management Program, which concluded in 2000. The new program will cover a broad range of potential river contaminant issues including salinity, nutrients and sediment, and will have the objectives of developing a whole-of-ecosystem approach to managing the combined impacts of major riverine contaminants and their role in ecosystem processes; improving knowledge about the ecological effects of salinity in ecosystems where salinity is the dominant cause of stress; contribute scientific input to end-of-catchment target-setting frameworks currently being established at Federal; state, basin and local scales; and providing practical support for operational decisions regarding the management of river contaminants.

New Board Members for Land & Water Australia

Four new directors have been appointed to the board of Land & Water Australia. They are: **Associate Professor David Pannell**, University of Western Australia and program leader with the CRC for Plant-Based Management of Dryland Salinity; **Tim Fisher**, Coordinator, Land and Water Ecosystems Program, Australian Conservation Foundation; **John Childs**, a Director with Bush Business Consulting Pty Ltd; and **Professor Peter Cullen**, former Chief Executive of the CRC for Freshwater Ecology and Professor of Resource and Environmental Science at the University of Canberra. Returning members include Warwick Watkins and Michael Logan, as well as Chair, Roberta Brazil, Government Member Charles Willcocks, and Executive Director, Andrew Campbell on the Board.

Centre for Groundwater Studies Short Courses - 2002

The aim of the CGS Groundwater Short Course Program is to improve understanding of groundwater as a key natural resource. CGS offers an annual program of fundamental and specialist groundwater short courses to cater for a wide range of attendees. CGS courses are presented by leading groundwater professionals and provide a balance of theory and practical aspects. Lectures, field demonstrations and tutorials are given by practicing, experienced hydrogeologists and specialists from industry, universities and research agencies such as CSIRO.

For further information Email: trevor@groundwater.com.au or visit the web at www.groundwater.com.au

Opportunity to make a submission to keep the Paroo wild

The Paroo River is the last 'wild' river in the Murray-Darling Basin. Recently, the Queensland Government released the Warrego, Paroo, Bullo and Nebine Catchments draft Water Resource Plan, this document can be downloaded from http://www.nrm.qld.gov.au/wrp/wpbn.html. If you would like to support the Queensland Government in its bid to keep the protect the Paroo, you can submit comments on this document up until the 30 October 2002. Submissions can be made at the website listed above.

New Salinity Education Kit

A new salinity education kit called 'Salinity in the Classroom' has been introduced into Western Australian schools. The kit which has been developed by the WA Department of Agriculture includes a video, background information, educational activities, a picture book and a CD Rom.

More information about the kit will soon be available on the Department of Agriculture's website at http://www.agric.wa.gov.au.

Environmental flows to the Murray River leads to an increase in diversity

A return in environmental flows are thought to be responsible for the discovery of large beetles and spiders in River Red Gum forest on the Murray River Monash University's Australian Centre for Biodiversity who are undertaking research in the area. Ms Andrea Ballinger, who made the discovery as part of her PhD research stated that 'invertebrates are the base of the food chain, so if you are knocking them around you are basically upsetting higher level ecosystem processes.' She also stated that research showed that biodiversity had changed completely with the increase in environmental flows and that we 'need to protect it'. For more information, visit http://www.abc.net.au/science/news/enviro/EnviroRepublish_647023.htm

Land and Water Australia report

Land and Water Australia have released a report on managing nutrients in floodplain wetlands and shallow lakes (by Paul Bailey, Paul Boon and Kay Morris). This new technical guideline provides scientific information on the impact of high nutrient loads to shallow lakes and wetlands, in particular the effect on water plants and algal growth, and what managers can do to maintain healthy shallow lakes and wetlands. The report can be accessed at the link http://www.rivers.gov.au/publicat/guidemanual.htm

POSITION AVAILABLE

Position for vegetation health ecologist in Melbourne, Victoria (September 2002 – June 2005)

It is anticipated that a position for an ecologist with skills in assessing the health of vegetation will become available in September 2002. It is likely to continue onto ~ June 2005, but this depends on funding being renewed etc. Details of the position are as follows:

Project

We have been funded under the Innovations Program of Land & Water Australia (LWRRDC) to examine the ecological health of the fringing wetlands of the Gippsland Lakes in eastern Victoria, and to advise on restoration activities that could be used to rehabilitate these sites. The wetlands are dominated by the swamp paperbark, *Melaleuca ericifolia*, but also have a range of other plant species present, including *Trigochin*, *Typha*, *Phragmites* etc. The wetland is listed under the Ramsar Convention and is an important site for waterbird feeding and roosting. It has been kept largely inundated for the past 20 years, and the health of the wetland plants is suffering as a result. Saline intrusions have taken place in the past from Lake Wellington, and the soil pH can drop markedly. Carp are present too.

The project will examine the impact of multiple environmental stressors (altered water regime, salinity, soil acidification, and presence of introduced fish) on the health of the plant communities in the wetland. This will be achieved using a landscape-scale water-regime manipulation, undertaken in collaboration with our partners in the project, Department of Natural Resources and Environment, Parks Victoria, and West Gippsland CMA. It is anticipated that about 300 ha of wetland will have its water level drawn down in late 2003, with another 300 ha acting as a control experiencing the current high-water level conditions.

We will examine the impact of the drawdown on the health of the vegetation in the field, using both on-ground and remote-sensing technologies. These observations will be complemented with focussed studies using large (12 m x 12 m) mesocoms at the Clayton campus of Monash University. Smaller scale greenhouse experiments are also anticipated.

Using these data, we will then devise a strategy for rehabilitating the wetland by modifying its water regime. Trials will also be undertaken of revegetation techniques, by working closely with community groups in the area.

Team

The project is led by Assoc. Prof. Paul Boon at Victoria University and Dr Paul Bailey at Monash University. Dr Kay Morris will be working 0.5 time on the project, as a post-doctoral fellow. We will also be employing a 0.75 time research assistant. A number of BSc(Hons), MSc and PhD students will also be working with us.

Responsibilities

Initially, we will work together to devise the protocols to assess vegetation health of the wetland. Accordingly, you should have demonstrable skills (eg MSc or PhD) in the assessment of vegetation health at the community or ecosystem level. We are not necessarily looking for a person with a wetland background: experience with forests, woodlands and heaths would be just as suitable. Once the techniques have been developed, you will work with the research assistant to undertake the field work component of the project at Dowd Morass.

The field site is about 150 km from the University, along an excellent road, and is situated on the Gippsland Lakes. Depending on availability, Drs Bailey, Boon and Morris will also attend some field trips. You will also be responsible for the day-to-day running of the mesocosm and glasshouse experiments; in this you will work most closely with Dr Morris. We will work closely with our industry partners and with community groups, so experience in collaborative projects would be advantageous. Computer proficiency (eg data management) and good writing skills are also required.

Other aspects

The position will be full-time and based at Monash University, Clayton. Salary is from $37,108 to $46,799, depending on experience and level of appointment.

The successful candidate will report to the project leaders, Drs Bailey and Boon.

Additional details can be obtained from either:

Dr Paul Bailey (Biological Sciences, Monash University). Phone 03 9905 1422, email: paul.bailey@sci.monash.edu.au
Assoc. Prof. Paul Boon (Life Sciences, Victoria University). Phone 03 9365 2210,
email: paul.boon@vu.edu.au

Kylee Wilton

Coastal wetland habitat dynamics in selected New South Wales estuaries

Ph.D. Abstract

Intertidal wetland habitats in southeastern Australia have changed significantly during the past 60 years. Mangrove habitats have expanded both seawards and landwards, the latter being at the expense of saltmarsh habitats. This relatively common phenomenon is generally suggested to be an outcome of sea-level rise. Several factors potentially responsible for this change are examined, including changes in mean sea-level during the past 50 to 100 years, changes in climate, population growth, catchment landuse, and estuary type.

A protocol for mapping estuarine habitats was developed and implemented, incorporating the application of geographic information systems. Spatial and temporal coastal wetland habitat changes at nine sites along the New South Wales coast are illustrated. These habitat dynamics were shown to not correlate between sites. The results demonstrate that sea-level rise in this region cannot solely account for the extent of change during the past sixty years. With the exception of one site (Careel Bay), there have been no correlations between contemporary mean sea-level rise and mangrove incursion of the saltmarsh habitats at the study sites, or with rainfall patterns, at the scale of observation in this study, which was largely decadal. The only correlations determined during this study have been between population growth and coastal wetland habitat dynamics in some sites.

In spite of saltmarsh habitat loss being a regional phenomenon, local factors appear to have a profound bearing on the rates of change. Neither contemporary mean sea-level rise, rainfall patterns, estuary type, catchment landuse, catchment natural cover nor population pressure can account solely for the patterns in the spatial and temporal dynamics of the coastal wetlands of New South Wales. It seems apparent that regional factors create preconditions favourable for mangrove incursion, but that localised conditions have been responsible for the extent of these incursions from site to site. That is, despite higher sea-level and greater rainfall, the extent of change has been determined by the unique characteristics of each site.

The results have important implications for current estuary management practices in the state of New South Wales. The lack of spatial and temporal trends in coastal wetland habitat dynamics point to the need for management to be conducted on a localised, rather than regional scale. Additionally, anthropogenic influences must be carefully managed, since the extent of mangrove habitat expansion into saltmarsh areas is unlikely to be a natural occurrence.

Reference details:
Wilton, K.M. (2002); *Coastal wetland habitat dynamics in selected New South Wales estuaries.* Unpublished Ph.D. Thesis. Coastal Wetlands Unit, School of Arts and Sciences, Australian Catholic University. 329p. plus appendices.

Contact details:
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NSW Department of Land and Water Conservation
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BOOKS

New arrangements for Boulton and Brock "Australian Freshwater Ecology"

With the closure of Gleneagles Publishing, distribution of the textbook "Australian Freshwater Ecology" by A.J. Boulton and M.A. Brock will now be through the University of New England, coordinated by Andrew Boulton at Ecosystem Management, The University of New England, Armidale, NSW, 2351, AUSTRALIA. The price of the book for individuals remains unchanged ($50/copy plus P&P) while bookshops making bulk orders obtain the usual discount as they did with Gleneagles. All invoicing will be through the University of New England.

This textbook, published in 1999, describes physical, chemical, and biological features of inland fresh and saline waters, using Australian examples to illustrate key ecological processes. An entire chapter is devoted to temporary wetlands and streams, recognising the importance of fluctuations in water presence across much of the continent. One central theme of this book is the need to understand ecological processes to address the causes rather than treat the symptoms of environmental threats facing Australian wetlands and their catchments. Therefore, the final three chapters integrate ecological principles with management issues, using case studies to show how agencies and managers approach problems of wetland deterioration.

This readable book will appeal to undergraduate and postgraduate students studying aquatic ecology and limnology, teachers at both secondary and tertiary levels, catchment and wetland managers, research workers, and anyone with an interest in freshwater ecology or wetland conservation. The text is enriched with numerous diagrams and photographs, and interspersed with 'boxes' containing definitions, examples, and case studies, many written by ASL members and experts in their field. A full glossary and index make this a valuable reference book for anyone working in pure and applied research on any aspects of wetland ecology.

Contact Andrew (aboulton@metz.une.edu.au) or Marg (mbrock@dlwc.nsw.gov.au) for details.

Revised Edition: Natural History of Kangaroo Island

The Royal Society of South Australia has published a revised edition of their second Occasional Publications. The Occasional Publications series is a regional cover of the natural history of the state of South Australia. Volumes published to date are:

No. 1 Natural History of the Adelaide Region (1976), reprinted 1989
No 2 Natural History of Kangaroo Island (1979), reprinted 1982, 1989, Second Edition 2002
No 3 Natural History of the South East (1983), reprinted 1995
No 4 Natural History of Eyre Peninsula (1985)
No 5 Ideas and Endeavours The Natural Sciences in South Australia (1986)
No 6 Natural History of the North East Deserts (1990)
No 7 Natural History of the Flinders Ranges (1996)

Further volumes on the North West and the Murray Basin are planned. Recommended retail price of the volume is $33.00 and is available from the Royal Society Rooms, c/o South Australian Museum, North Terrace, Adelaide SA 5000.

This book is currently being reviewed by Lance Lloyd, check out the next ASL newsletter (40 # 4) for the review.

Book worth reading...

"The Stream" by Brian Clarke. Black Swan Books. Published 2000. Winner of the BP Natural World Book Prize

ISBN 0 552 77077 9

Fictional story of how international, national, regional and local factors interact at multiple levels of scale (to use ecologist's jargon) to bugger up a stream. It's a work of fiction but the book obviously draws on the author's own observations and experience.

ASL could give a copy to every farmer and urban planner - write it off as a long term investment. For the ecologists, quite impressive how the multiple interactions occurring at multiple scales are woven together and expressed in every day language - the author knows his stuff. Great one for older kids and for anyone with an interest in natural history - the nature that exists over the back fence is wonderful and endlessly interesting, and can easily be stuffed up.

Gerry Closs [gerry.closs@stonebow.otago.ac.nz]

CONFERENCE REPORTS

North American Benthological Society

Richard Norris, Stuart Bunn, Simon Linke and Wayne Robinson from the CRCFE with Chuck Hawkins (Utah State University) and Bob Bailey (University of Western Ontario) presented a workshop on statistical methods in benthic ecology at the recent annual conference.

The workshop was organized at the request of the Technical Information Committee in response to perceived need and positive feedback from a previous similar workshop a few years ago. The workshop theme was comparing biological assessment methods with 4 talks in the morning and a hands on workshop in the afternoon.

The workshop sported a few innovations. The workbook with talks and the afternoon session were all supplied to participants on CD, which greatly increased flexibility, enabled colour graphics and allowed additional relevant materials from the workshop team's institutions and research programs to be included. The afternoon session required participants to bring their own laptop computers and involved running a program that is able to simulate biological impairment in real or synthetic data. The simulated impairments are done using sets of rules that have been devised to represent real situations. The outputs can then be used to test how proposed methods of analysis respond to gradients, or types, of impairment. Concurrently a website has been set up that is aimed at developing the method and thus enable more open and objective testing of biological assessment methods. The workshop was well attended with over 100 in the morning session and 90 in the afternoon session. *Richard Norris*

8th International Conference on Salt Lakes

International Conferences on Salt Lakes are often held in remote places, and this one was the dandy of them all. The site was a little spa town of Zhemchuzhny on hyposaline Lake Shira in the Republic of Khakassia in Russia. It was not on any maps I consulted but it can be found (even at 4 am in the morning, ask **Brenton Knott** & **Dimity Smith**) about 400 km south of Krasnoyark in south central Siberia. The remoteness of the site probably proved too much for overseas delegates and only 26 came. Of these Australia provided 10, proving yet again our resourcefulness. We were expected to fly in from Moscow, which **Jacob John, Joshua Foster, Peri Coleman** and **Kevin Taylor** dutiful did, though **Peri** and **Kevin** got kicked out of Moscow a day early because of shady practices by their Russian tourist agent. Four of us (**Brenton** & **Dimity, Brian** and **Beverley Timms**) journeyed there by train from Beijing, but this was problematical for **Brenton** & **Dimity** as their visas were a day out and the Russians locked them up and then deported them back to Mongolia. But like good limnos they persisted and arrived against other odds of being left to fend for themselves with unsympathetic Russian railway officials and unknown routes to Shira Lake. The smartest route taken was by **Mark Coleman** and **Bindy Datsun** who flew via Singapore, New Delhi and Uzbechistan Air direct into Krasnoyarsk and hence avoided the troublesome other routes. Why do I dwell on getting there? Well it is most exciting part of this conference! Even going home had problems for the train travellers, with border currency scams to negotiate and pompous Chinese officials expecting you to sit at attention at 1 am in the morning to show respect for their authority (despite the other problems of being locked up for 6 hours without toilets or carriage ventilation). The Russians were much more resilient of their system and came in droves, 127 of them, so translators were the 'in' persons.

The conference got underway with an elaborate opening ceremony on the morning of 23rd July. Luckily, to break the boredom we then left for a field trip in pouring rain. Excitement was provided by the police escort and tailing vehicle and later by their bogging. The lakes we visited were not as interesting as even our most mundane lake, though early on we learnt of the so called therapeutic value of their waters and mud. When asked about such values for the hypersaline Lake Tus, we were told they were sure there was a value, but it had eluded them so far. The business end of the conference started the next day and we were subjected to numerous papers for three days on bacterial processes, geochemistry, lake modelling, and biotechnological and medical values in local lakes, interspersed with more interesting papers on other lakes, especially Australian ones (I admit my bias!). One very disturbing feature was the widespread use of the term 'brackish' to describe slightly salty inland waters, whereas years ago the term 'hyposaline' was promoted to apply to such waters. Even one prominent European joined the malaise. Also in other areas ignorance of the international literature prevailed, though younger presenters were more astute. Many papers focussed on data collecting on local lakes without interpretation and integration with the literature. Also disappointing was the virtual lack of review papers, though any possible discussion was stifled due to translation difficulties. Even the audiovisuals did not work properly at times, much to the chagrin of some (notably myself).

Despite all of the above, the conference was worthwhile attending, in part to experience soviet science, in part to network with scientists in other places and in part to experience the Russian way of doing things. A special thankyou is due to the translators. Particularly memorable were the opening and closing banquet and the visit by the overseas folk to the nearby field station which was mainly an excuse for our hosts to show they can outdrink even Australians. Given that the next conference is likely to be in Perth in 2004 and that local Khakassian scientists will find it most difficult to attend, we Australians engaged in politics and gave the Governor of Khakassia our flag in anticipation of his scientists reciprocating in Perth.

The Institute of Biophysics in Krasnoyarsk led by Andrey Degermendzhy organised the conference against great odds, though these were not apparent. I am sure most of us would not have been able to battle their administrators and the system to hold such an international event. So my congratulations to them and I express my hope that the Russian scientists with whom we mingled and minced words will gain by the experience of being exposed to international science. And to close, if you see any of the Australian attendees showing pictures of Pauline Hansen in compromising poses (kissing a bloke, hugging us), then you are as fooled as we were by her spiting image, a lovely Russian scientist at the conference!

Prof Brian Timms, University of Newcastle
Brian V Timms [ggbvt@cc.newcastle.edu.au]

FORTHCOMING CONFERENCES/WORKSHOPS

OVERSEAS

2002

The New Zealand Limnological Society Conference meets on the Wild West Coast - Shantytown, Greymouth from 10 to 14 November. See web page for further details: http://www.rsnz.govt.nz/clan/limsoc/

Advances in Ecology, a residential three week course (11 to 29 November) presented by the Department of Biological Sciences and the Natural Environment Research Council Centre for Population Biology, Imperial College at Silwood Park, Ascot, Berkshire UK. Web address: http://www.bio.ic.ac.uk/advecol

The 7th International Conference on Public Communication of Science and Technology (PCST) will be held in Cape Town, South Africa from 4 to 7 December. "Science Communication in a Diverse World" is the theme, exploring innovative approaches in the public communication of science and technology. Science communication within different cultures and multi-cultural societies will be a central theme. See web page for further information: www.fest.org.za/pcst.html

2003

The 2nd Large Rivers Symposium is to be held in Phnom Penh, Kingdom of Cambodia from 11 to 14 February. The web site is at: lars2.org

3rd World Water Forum. 16 to 23 March at The Kyoto International Conference Hall, Kyoto, Japan. See: http://www.worldwaterforum.org/eng/index.html

Organic Phosphorus 2003. 13 to 18 July to be held at Mont Verita, Ascona, Switzerland. See the Workshop website http://www.nwisrl.ars.usda.gov/OrganicP2003/ for details on how to register. Further information from Dr Darren Baldwin (Darren.Baldwin@csiro.au).

Symposium for European Freshwater Sciences, to be held from 13 to 18 July at the University of Edinburgh, UK. Web address: http://www.sefs.info/

Fourth International Symposium on Phosphate in Sediments. Organised by the Asociaci F3n Espa F1ola de Limnolog EDa the University of Sevilla, together with the University of Granada. Sediments are known as important sites for aquatic nutrient recycling, but not all processes are as yet fully understood, neither qualitatively, nor quantitatively. This meeting will take place in Sevilla (Spain) from 9 to 12 September. If you are interested inform Laura Serrano (serrano@us.es) or Han Golterman(email: golterman@wanadoo.fr <mailto:golterman@wanadoo.fr>)

The 17th Biennial Conference of the Estuarine Research Federation (ERF) will be held 14 to 18 September, at the University of Washington in Seattle, Washington. The conference's theme is Estuaries on the Edge: Convergence of Ocean, Land, and Culture. For more information about ERF, please contact Joy Bartholomew at jbarth@erf.org or visit their web site: www.erf.org

2004

29th International Association of Theoretical and Applied Limnology 8 to 14 August. (SIL): Lahti, Finland. Website: sil2004@latkk.helsinki.fi

7th INTECOL International Wetlands Conference at Utrecht University , The Netherlands, July 2004. This Conference will be organized under the auspices of the International Association of Ecology (INTECOL) under the title "Wetland Science and Water Resources Management". Please visit the web site and bookmark it: <http://www.bio.uu.nl/INTECOL> www.bio.uu.nl/INTECOL

AUSTRALIAN

2002

Australian Landscape Conference: Conference Themes: Contemporary Design and Sustainability, to be held at the Camberwell Centre, Melbourne on 21 and 22 September. Conference program, speaker outlines, media release and register at www.bloomings.com.au

4th International Symposium on Artificial Recharge of Groundwater (ISAR4), to be held in Adelaide, SA from 22 to 26 September. Theme is "Management of Aquifer Recharge for Sustainability". See the ISAR4 web page: www.groundwater.com.au/conf/ISAR4.htm

Australian Entomological Society 33rd AGM and Scientific Conference, to be held in Fremantle, Western Australia from 22 to 27 September. Further information visit the web at http://aes33rdagm.tripod.com/index.htm

The Science of Environmental Water Requirements in South Australia , a seminar organized by the The Hydrological Society of South Australia Inc. in association with The Department of Water, Land and Biodiversity Conservation, The Department of Environment and Heritage and The Catchment Water Management Boards, to be held on 24 September at the Hotel Adelaide, King William Rd, Adelaide. Further information from Barry Johnson barryjoh@adam.com.au

Managing fish translocation and stocking in the Murray-Darling Basin, to be held at the: Rydges, Capital Hill, Canberra from 25 to 26 September. WWF Australia and the Inland Rivers Network (IRN) will host a two day workshop which aims to address the future management of fish translocation and stocking in the Murray-Darling Basin. The workshop is supported by the Murray-Darling Basin Commission and NSW Fisheries. Further information, please contact WWF Australia's Communication Officer, South East Australia Program, Marie Waschka on 02 6257 4010 or email mwaschka@wwf.org.au

4th Australian Algal Workshop, to be held at Curtin University of Technology, Western Australia from 28 to 30 September. Further information contact A/Prof. Jacob John on his email: J.John@curtin.edu.au

41st Annual Australian Society for Limnology Congress, to be held in Margaret River, Western Australia from 29 September to 3 October. Further information visit the web at: http://www.asl.org.au/ Congress Announcements.

17th Australasian Society for Phycology and Aquatic Botany Conference, to be held at Curtin University of Technology, Western Australia from 1 to 4 October. Further information visit the web at: http://envbio.curtin.edu.au/index.html (click ASPAB).

The Science Writers Festival will be held at the Mercure Hotel, Brisbane from 3 to 6 October. Go to www.swfaus.org for information about the program, travel, accommodation and registration options.

The Rosenburg International Forum on Water Policy will be held in Canberra from 7 to 11 October. This major forum will focus on innovations in the management of water resources - internationally. It will focus on water policy issues of global significance that relate to the themes of improving water policy, reducing water-related conflicts, and enhancing the environment and economic growth.

Water Rights Forum, to be held at the North Sydney Anzac Memorial (RSL) Club, on 14 October commencing at 4pm. Initiated by the Australian Institute of Agricultural Science and Technology. Places are limited, contact Roger Fitzsimmons on 02 9943 0090 or email aiastensw@optusnet.com.au

Prospects for Biodiversity & Rivers in Salinising Landscapes, to be held in Albany, Western Australia, from 20 to 25 October. For further information email Marcus Blacklow, Conference Chairman on (08) 9386 4897 or email: mblacklo@agric.uwa.edu.au or Fax (08) 9380 1140. Sponsored by the CRC for Plant-Based Management of Dryland Salinity. Visit the website at http://www.biodiversityconference.albany.uwa.edu.au for details on the Conference and registration details.

The 4th Australasian Water Law & Policy Conference will be held on 24 to 25 October at the Australian National Maritime Museum, Darling Harbour, Sydney. The conference will examine current legislation and proposed reforms; the legal and policy frameworks under water utilities. Further information available at: www.countryconferences.com.au

Ecotoxicological Tools for Environmental Management will be held at the University of Canberra on 4 and 5 November. See website for more information: www.scientific.ambitalia.org.au/science/ecotox

Indopacific Ecosystem Health Conference, Linking Ecology, Participation, Health and Justice, will be held at Edith Cowan University Joondalup campus, Joondalup, WA from 24 to 27 November. Further information including from http://www.chs.ecu.edu.au/research/ceh/conference_2002/

Women Achieving in Science 2

The Second National Conference on Women in Science, Technology and Engineering is taking place on 28 to 29 November at the Faculty of Nursing, University of Sydney. The Conference aims to advance the participation of women in science, engineering, mathematics and technology. The preliminary program is now available at www.cpsu.org/csiro.

2003

Worldwide Dragonfly Association (WDA) 3rd International Symposium of Odonatology, to be held at La Trobe University Beechworth, Victoria, from 7 to 13 January. For further information contact the Symposium Convenor: John Hawking (John.Hawking@csiro.au) or see the preliminary notice on the web page at: http://powell.colgate.edu/wda/Australia/Home_page.htm

Australian Water Association (AWA) 20th Ozwater Convention & Exhibition *Innovations in Water.* To be held at the Burswood Resort, Perth, Western Australia, from 6 to 10 April. For further information email quitz@bigpond.com.au (Quitz Event Management), or phone (02) 9410 1302.

The Ninth International Conference on River Research and Applications - is being organised and sponsored by the CRCFE. The conference will be held 6 to 11 July in Albury, NSW. See http://www.conlog.com.au/NISORS/ for further information.

Joint 42nd Annual Australian Society for Limnology Congress and The New Zealand Limnological Soceity, to be held in Warrnambool, Victoria from 1 to 5 December. Further information from Belinda Robson (brobson@deakin.edu.au), Phone (03) 5563 3330 or Fax (03) 5563 3462.

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The following members have volunteered to speak as experts on behalf of the ASL.

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ASL MEMBERSHIP FORM

Fill out the form below and send onto the Treasurer/Membership Officer (address below), or alternatively go to the ASL website (http://www.asl.org.au/asl_member.htm), follow the link to 'Membership application via the web'. Fill in the details on the form, including credit card details, and submit. ASL is not registered for GST, therefore ASL does not charge GST.

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If you are a member of the ASL and want to receive your newsletter electronically, then please fill in the form below. Members who do not want to receive an electronic version, and would rather still receive the paper version will continue to do so, but you are encouraged to also fill in and send the form below (we do not have plans to phase out the paper version).

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